

University of Dundee

The involvement of nurses and midwives in screening and brief interventions for hazardous and harmful use of alcohol and other psychoactive substances

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**THE INVOLVEMENT OF NURSES AND MIDWIVES IN
SCREENING AND BRIEF INTERVENTIONS FOR HAZARDOUS AND
HARMFUL USE OF ALCOHOL AND OTHER PSYCHOACTIVE
SUBSTANCES**

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FOREWORD

Psychoactive substance use continues to be a major public health and social concern, and individuals, families and communities have become more vulnerable to it. It is estimated that around 200 million people globally use illicit substances. Hazardous or harmful alcohol use accounts for 4.5% of the global burden of disease (WHO 2009) and is responsible for 3.8% of all deaths worldwide (WHO 2007). WHO has, for many years, been advocating screening and brief interventions for hazardous and harmful drinking using the 'Alcohol Use Disorders Identification Test' (AUDIT) instrument. More recently, the tool 'Alcohol, Smoking and Substance Involvement Screening Test' (ASSIST) for use in primary health care settings to detect hazardous and harmful use of all psychoactive substances, including tobacco, cannabis, alcohol and stimulants is being promoted.

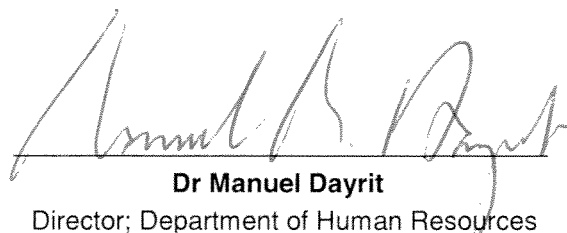
Nurses and midwives are the largest group of health professionals in most countries and are in the best position to contribute to the interventions related to psychoactive substance use. In recognition of this fact, a literature review to explore where to strengthen this contribution was initiated as a collaborative effort between the Management of Substance Abuse (MSB) and Health Professions Networks, Nursing and Midwifery (HPN).

This research work was able to generate recommendations in the areas of policy, education, practice and research so that contribution of nurses and midwives can be strengthened. This work is important in contributing to WHO mental health GAP Action Programme (mhGAP) to scale up care for mental health and neurological and substance use disorders in primary health care settings.



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THE INVOLVEMENT OF NURSES AND MIDWIVES IN SCREENING AND BRIEF INTERVENTIONS FOR HAZARDOUS AND HARMFUL USE OF ALCOHOL AND OTHER PSYCHOACTIVE SUBSTANCES

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EXECUTIVE SUMMARY

This report provides details of a review of the literature on the involvement of nurses and midwives in screening and brief interventions for hazardous and harmful use of alcohol and other psychoactive substances. The literature review was limited to publications in English in which there was evidence of the involvement of nurses and midwives.

BACKGROUND

Globally about two billion people use alcohol (WHO 2007), and between 172 and 250 million people used illicit drugs at least once in 2007 (UNODC, 2009). The harmful alcohol use accounts for 4.5% of the global burden of disease and is responsible for 3.8% of all deaths worldwide (WHO 2009). Rates of death attributable to alcohol are the highest in Europe and the countries of the American continent and are rising in all six WHO regions. Illicit drug use is also a major concern for the developed and developing world (UNODC, 2009; UNODC/WHO 2008). Psychoactive substance use and substance use disorders can result in a wide range of health and social problems for individuals, their families and the wider community (WHO 2004b, 2007).

RELEVANCE FOR NURSES AND MIDWIVES

Given the extent of the problem and the risks of hazardous and harmful substance use to health, nurses and midwives are well placed to deliver appropriate interventions (Nkowane & Saxena 2004). Screening and brief interventions can be delivered by nurses or midwives who work in primary health care, hospital settings or antenatal care and are among the most effective and cost-effective prevention services (Solberg et al. 2008).

SCREENING FOR HAZARDOUS AND HARMFUL USE OF ALCOHOL AND OTHER PSYCHOACTIVE SUBSTANCES

The review considered efficacy studies, cross-sectional studies and discussion papers on the role of nurses or midwives in screening for hazardous and harmful substance use. Screening for substance use was widely viewed to be an important element of the role of nurses and midwives in a wide range of clinical settings. In addition to incorporating screening with a health assessment interview, a computerized form of screening has shown some potential to augment screening undertaken by nurses.

BRIEF INTERVENTIONS

According to the *Lexicon of alcohol and drug terms* (WHO 1994), a brief intervention is:

“a treatment strategy in which structured therapy of short duration (typically 5-30 minutes) offered with the aim of assisting an individual to cease or reduce the use of a psychoactive substance or (less commonly) to deal with other life issues. It is designed in particular for general practitioners and other primary health care workers.”

Empirical evidence exists for the involvement of nurses and midwives in the delivery of brief interventions for hazardous or harmful use of alcohol in primary health care and inpatient hospital settings. The evidence for nursing involvement in screening and brief interventions in hospital emergency departments is weaker, and it may be that emergency departments, where patients often present with acute or critical health needs, are not suitable environments for discussion of a topic such as substance use. Findings from studies of brief interventions conducted in outpatient clinics, during an appointment after initial treatment of an injury, indicate that this is an area where screening and brief interventions can be very effective. The studies that tested interventions delivered to hospital inpatients used relatively small samples, but the results suggest that the interventions had been effective.

Significant benefits in terms of reduction of alcohol use were found in two studies in which midwives/obstetric nurses were involved. Brief interventions were also found to be effective in helping high school students in the United States of America to avoid drinking. Developmental work is being undertaken to test the feasibility of screening and brief intervention for hazardous and harmful alcohol use in a sexual health clinic, with another study exploring the feasibility of conducting a randomized controlled trial of an intervention being delivered by an occupational health nurse in a workplace setting. Both studies showed promising results.

This body of literature provides considerable support for nurses to embrace a health-promoting role in relation to reducing the impact of hazardous and harmful use of alcohol. However, larger well-designed studies are required to strengthen the evidence base. It is also clear that further research in relation to nurses providing brief interventions to address risks and harms associated with the use of psychoactive substances other than alcohol is needed.

NURSES' AND MIDWIVES' PRACTICE OF SCREENING AND BRIEF INTERVENTIONS

Although nurses working in primary health care generally assess patients' alcohol use, it appears that they seldom use validated screening tools. While nurses do give advice and information to patients whom they consider to be hazardous and harmful

drinkers, there is some evidence that they are working from a low knowledge base. As a consequence, the interventions may be inappropriate or opportunities to intervene may be missed. Findings from this review suggest that few hospital nurses routinely screen patients for alcohol use, and there is little evidence of nurses' or midwives' practice regarding screening and brief interventions for the hazardous and harmful use of other substances.

FACILITATORS AND BARRIERS TO NURSES' AND MIDWIVES' INVOLVEMENT IN SCREENING AND BRIEF INTERVENTIONS

A large body of literature was found which reports investigations of factors that may act as enablers or barriers to nurses' and midwives' screening and brief interventions. It was clear that lack of confidence in assuming this secondary prevention role and insufficient knowledge and negative attitudes are key inhibitors of nurses' involvement in screening and brief interventions in this field. However, it was also shown that the more education nurses receive the greater the likelihood that they engage in screening. Most studies of training suggested that educational interventions can have a positive impact on nurses' knowledge, skills and attitudes regarding alcohol screening and brief interventions (Ockene et al. 1997; Kaner et al. 2003; Peltzer et al. 2008). However, definitive evidence of the optimum duration and format of such initiatives is not available.

CONCLUSIONS

Nurses and midwives play a key role in public health. As members of the health care team who constitute by far the largest part of the workforce (WHO 2006), they can also make a significant impact on reducing hazardous and harmful use of psychoactive substances by engaging in screening and brief interventions.

The key findings that have arisen from this literature review are:

- There is convincing evidence of the efficacy of brief interventions in primary health care and hospital settings for hazardous and harmful use of alcohol.
- The location and timing of the delivery of interventions are important.
- Evidence for the effectiveness of nurses and midwives delivering brief interventions is not robust, but quality evidence is on the increase.
- Many nurses recognize that screening and brief interventions for hazardous or harmful use of alcohol are an appropriate part of their role.
- Nurses generally lack confidence in assuming this preventative role.
- Nurses generally lack knowledge to support accurate screening and brief interventions.
- Education and training on screening and brief interventions can enhance nurses' practice of these activities.

The review has also highlighted the following:

- The evidence on the most effective format and duration of training for nurses in screening and brief interventions is equivocal.
- There is less evidence that midwives are involved in these activities.
- Less attention has been paid in the literature to factors that influence the involvement of midwives in delivering brief interventions, such as their attitudes, knowledge and skills.
- There is a dearth of evidence on the involvement of nurses and midwives in screening and brief interventions for hazardous and harmful use of substances other than alcohol.
- No evidence was found in this review of English publications on this topic from countries other than Australia, Canada, Denmark, Finland, Hong Kong, South Africa, Sweden, Taiwan, the United Kingdom and the United States of America.

RECOMMENDATIONS

Recommendations are made for policy, research, education and practice so as to set up a cohesive framework to enhance the integration of this public health measure with routine practice.

POLICY

A systems approach to workforce development has scaled up the implementation of screening and brief interventions in several countries, including Australia, Sweden, the UK and the USA. Such an approach should be encouraged by governments and nursing leaders in countries where there is less activity to promote this role for nurses and midwives.

In order to involve nurses and midwives more in screening and brief interventions, policy should ensure that:

- a financial investment is made in nursing and midwifery involvement in screening and brief interventions;
- regulatory bodies for nursing and midwifery are required to ensure that hazardous and harmful use of alcohol and other psychoactive substances is addressed in undergraduate and postgraduate nursing and midwifery curricula;
- national leaders are appointed to champion screening and brief interventions and to change attitudes and inform and inspire nurses and midwives;
- service standards for screening and brief interventions are developed;
- nationally agreed standards are set for training in screening and brief interventions;

- national and local initiatives to support training in screening and brief interventions are coordinated;
- appropriate resources, such as computerized screening and automated systems that prompt nurses and midwives to apply brief interventions as a result of positive screening, and manuals on the delivery of screening and brief interventions, are developed and disseminated;
- opportunities for clinical supervision are provided so that nurses and midwives can reflect on and develop their practice;
- that the impact of each of the above is evaluated in order to learn from successes and less fruitful activities; and
- research findings on the involvement of nurses and midwives in screening and brief interventions published in languages other than English are disseminated.

RESEARCH

Based on the findings of this literature review, it is recommended that future research addresses:

- the best format and optimum duration of training for nurses and midwives in screening and brief interventions;
- the effectiveness of screening and brief interventions by midwives regarding hazardous and harmful use of alcohol and other substances by pregnant women;
- the factors that influence the involvement of midwives in brief interventions, such as their attitudes, knowledge and skills;
- the effectiveness of screening and brief interventions by nurses and midwives regarding hazardous and harmful use of substances other than alcohol; and
- the screening and brief interventions by nurses and midwives in countries not covered in this review.

EDUCATION AND TRAINING

Education and training of nurses and midwives should ensure that:

- the hazardous and harmful use of alcohol and other psychoactive substances is addressed in undergraduate and postgraduate nursing and midwifery curricula;
- the content of courses designed to promote screening and brief interventions meets nationally agreed standards for training, where available;
- information is provided on the underpinning theories, including the stages of behaviour change model, motivational enhancement, social learning and social cognitive theories, and self-efficacy;
- these theories are applied to scenarios such as:

- adopting an empathetic interviewing style that enhances self-confidence to change,
- raising the issue of substance use,
- assessing motivation and readiness to change,
- coping with denial,
- matching the intervention to the client's/patient's stage in the cycle of change,
- negotiating goals, and
- enhancing self-efficacy;
- practical training in using alcohol screening questionnaires is included;
- information is provided on the content of brief interventions, including practical exercises such as role play; and
- regular updates and refresher courses to reinforce skills acquired are provided.

PRACTICE

Recommendations for nurses and midwives in practice include that:

- the extent of the problem be understood;
- the importance of screening and brief interventions for hazardous and harmful use of alcohol and other psychoactive substances be acknowledged;
- where available, standards for screening and brief interventions be implemented;
- screening be incorporated with routine clinical practice when assessing new patients, and during periodic reviews;
- available resources be utilized, such as validated screening tools and manuals for the delivery of screening and brief interventions, amended as necessary for a range of clinical settings;
- relevant education and skills training courses be attended, and available updates and refresher courses to reinforce skills acquired as a result of initial training be heeded; and
- practice be scrutinized.

LIST OF ABBREVIATIONS

AAF	Addiction Assessment Form
AAIS	Adolescent Alcohol Involvement Scale
AAS	Addiction Acknowledgement Scale
ADI	Adolescent Drinking Index
ACOG	American College of Obstetricians and Gynaecologists
ADSUME	Adolescents' Substance Use Measurement
AIHW	Australian Institute of Health and Welfare
APS	Addiction Potential Scale
ASI	Addiction Severity Index
ASSIST	Alcohol Smoking and Substance Involvement Screening Test
AST	Aspartate Transaminase
AUDIT	Alcohol Use Disorders Identification Test
AUDIT-C	Alcohol Use Disorders Identification Test Consumption
CAF	Client Assessment Form
CAGE	Cut down, annoyed, guilt, eye-opener (a four-item screening instrument to detect alcohol dependence)
CASP	Critical Appraisal Skills Programme
CIDI-SAM	Composite International Diagnostic Interview Substance Abuse Module
DAST	Drug Abuse Screening Test
DAWN	Drugs and Alcohol Withdrawal Network
DRSEQ	Drinking Refusal Self-efficacy Expectancy Questionnaire
DSM-III-R	Diagnostic and statistics manual of mental disorders
DUSI	Drug Use Screening Inventory
ED	Emergency Department
EMCDDA	European Monitoring Centre for Drugs and Drug Addiction
FAST	Fast Alcohol Screening Test
FRAMES	Feedback, Responsibility, Advice, Motivation, Empathy and Self-efficacy
GGT	Gamma glutamyl transferase
GP	General Practitioner (medical)
HEADS FIRST	Home, Education, Abuse, Drugs, Safety, Friends, Image, Recreation, Sexuality and Threats
HEADSS	Home, Education/Employment, Activities, Drugs, Sexuality and Suicide/Depression
HIV	Human Immunodeficiency Virus
IAS	Individual Assessment Profile
ICD-10	International statistical classification of diseases and related health problems, 10 th revision
ICN	International Council of Nurses
IRB	Institutional Review Board

ISD	Information and Statistics Division (of the Scottish Government)
MAC	MacAndrew Scale
MAST	Michigan Alcohol Screening Test
MCDAAP	Minnesota Chemical Dependency Adolescent Assessment Package
MCMI	Millon Clinical Multiaxial Inventory
MCMI-III	Millon Clinical Multiaxial Inventory, Version 3
MMPI	Multiphasic Personality Inventory
MMPI-2	Multiphasic Personality Inventory-2
NDARC	National Drug and Alcohol Research Centre
NHMRC	National Health and Medical Research Council
NIAAA	National Institute on Alcohol Abuse and Alcoholism (USA)
NMC	Nursing and Midwifery Council (UK)
OAS	Office of Applied Studies (substance abuse and mental health statistics)
PAT	Paddington Alcohol Test
PHC	Primary health care
POSIT	Problem-Oriented Screening Instrument for Teenagers
RCT	Randomized Control Trial
RAPS	Remorse, amnesia, performance and starters
SADD	Short alcohol dependence data
SAMHSA	Substance Abuse and Mental Services Administration
SBIRT	Screening, brief intervention and referral to treatment
SHAAP	Scottish Health Action on Alcohol Problems
SIGN	Scottish Intercollegiate Guidelines Network
SMAST	Short Michigan Alcohol Screening Test
T-ACE	Tolerance, annoyed, cut-down, eye-opener
TWEAK	Tolerance, worried, eye-opener, amnesia: K/cut down (a five-item instrument for screening pregnant women for “at-risk” alcohol consumption)
UK	United Kingdom
UNODC	United Nations Office on Drugs and Crime
USA	United States of America
WHO	World Health Organization

1 INTRODUCTION

This report provides details of a literature review of the involvement of nurses and midwives in screening and brief interventions for hazardous and harmful use of alcohol and other psychoactive substances. It also presents the findings of the review and discusses the role of nurses and midwives in these activities. Factors that have been shown to influence nurses' and midwives' practice in relation to screening and brief interventions are highlighted. The information in this report can be used to enhance the participation of nurses and midwives in public health. The report concludes with recommendations for policy makers, researchers, educationists and practising nurses and midwives. A glossary of terms is provided in the annex.

2 GLOBAL IMPACT OF PSYCHOACTIVE SUBSTANCE USE

2.1 PREVALENCE

Psychoactive substance use can result in a wide range of health and social problems for individuals, their families and the wider community. Globally, about two billion people use alcohol (WHO 2007) and it is estimated that between 172 and 250 million persons used illicit drugs at least once in the past year in 2007 (UNODC 2009). About 2.5 million deaths are attributable to the use of alcohol and about 200 000 to the use of illicit drugs. (WHO 2009)

Harmful alcohol use accounts for 4.5% of the global burden of disease and is responsible for 3.8% of all deaths worldwide (WHO 2009). Rates of death attributable to alcohol are the highest in Europe and the countries of the American continent and are rising in all six WHO regions. Illicit drug use is also a major concern for the developed and developing world (UNODC, 2009; UNODC/WHO 2008). Psychoactive substance use and substance use disorders can result in a wide range of health and social problems for individuals, their families and the wider community (WHO 2004b, 2007). It is estimated that worldwide there are about 25 million people with drug dependence (UNODC/WHO 2008). Cannabis is the most commonly used illegal substance and accounts for an estimated 80% of illicit drug use worldwide (Hall et al. 2006). The next most commonly used illegal psychoactive substances are stimulants, which include amphetamines (29.6 million people), cocaine (13.3 million people) and ecstasy (8.3 million people) (Hall et al. 2006). Data on the size of the injecting drug use population indicate that there are about 15.9 million people injecting drugs worldwide (Mathers et al, 2008), although it is acknowledged that it is difficult to produce precise figures. Injecting drug use, a growing phenomenon, is reported in 148 countries (Mathers et al, 2008), with 0.4% of deaths worldwide attributable to it (WHO 2009). The use of stimulants such as amphetamine has increased rapidly in Asia and Europe (WHO 2004b), with evidence of a substantial increase in the use of crack and crack cocaine in Europe (EMCDDA 2007), South Africa (Parry et al. 2007) and the Americas (UNODC, 2009). The non-medical use of tranquillizers and

analgesics is also thought to be considerable, although statistics on this are not available for many countries.

2.2 RISKS AND HARMS

Alcohol intoxication leads to impaired judgement and risk-taking, which are associated with accidental injury. It also adversely affects social and interpersonal relationships. Alcohol use contributes to more than 60 different disorders, including fetal alcohol syndrome, liver disease, neurological disorders, cardiovascular and cerebrovascular diseases, anaemia and several cancers (Rehm et al. 2009, WHO 2009).

The hazardous and harmful use of psychoactive substances is associated with social exclusion and poverty, health problems and criminal behaviour (WHO 2004b). Injecting drug use is closely linked to blood-borne viruses such as HIV and hepatitis B and C transmission through the sharing of needles and other injecting equipment (EMCDDA 2008). Dependence, overdose and serious mental health problems are among the main health risks associated with non-injecting drug use, although this depends to some extent on the particular substance used. Cannabis is often taken by inhaling it. Consequently, cancers that are associated with tobacco use constitute an important health risk for cannabis users (Aldington et al. 2008). There is a high correlation between mental health problems and the use of alcohol, stimulants and hallucinogenic agents (Seivewright et al. 2004).

Social harms associated with psychoactive substance use include interpersonal problems that impact adversely on relationships with family members, friends and acquaintances, colleagues and members of society at large (UNODC 2009, WHO 2007, WHO 2004a).

Loss of self-esteem and disrupted interpersonal relationships between the individual and members of his or her family and social circle may exacerbate substance use and/or give rise to mental health problems. The economic impact of substance use places stress on individuals and families, problems at work can result in job loss, and substance use-related violence and other criminal activities can result in fiscal costs to society.

2.3 RELEVANCE FOR NURSES AND MIDWIVES

Given the extent of the problem and the risks associated with hazardous and harmful substance use for health and social well-being as described above, members of the health care team, including nurses and midwives, increasingly have contact with individuals who have problems associated with substance use (Jeffery et al. 2003). As highlighted by Nkowane and Saxena (2004), nurses are often the front-line

workers who encounter patients with problems associated with psychoactive substance use and are well placed to deliver appropriate interventions.

3 ROLE OF NURSES AND MIDWIVES

3.1 PUBLIC HEALTH ROLE

Nurses and midwives have a key role to play in improving the health of the population through assessment, prevention, education and community outreach (Coles & Porter 2008). Public health approaches to nursing and midwifery stress the importance of understanding the ways in which lifestyle and living conditions combine to determine health status. It is therefore important that nurse/midwife-led interventions are set within the context of local, national and international policies, programmes and services to create supportive environments for health.

In the public health field, interventions are often divided into primary, secondary or tertiary interventions (Fletcher & Fletcher 2005).

3.1.1 Primary prevention

In primary prevention, nurses and midwives aim to prevent the onset of a certain condition, for example when nurses or midwives deliver a brief intervention to an individual, they are preventing an individual from using alcohol in hazardous or harmful ways. Successful primary prevention helps avoid the suffering, cost and burden associated with ill-health.

3.1.2 Secondary prevention

Secondary prevention includes strategies that identify and treat people who have developed pre-clinical stages or early stages of disease but who do not yet experience overt signs of illness and its complications. Early identification and intervention may reduce the severity of a health problem, minimizing suffering and maximizing well-being. Screening and the delivery of interventions for people who are hazardous and/or harmful users of alcohol or other psychoactive substances, such as cannabis, cocaine or heroin, are considered to be secondary prevention interventions. Alcohol screening and brief interventions have been shown to be among the most effective and cost-effective prevention services to be delivered in primary health care settings (Solberg et al. 2008).

3.1.3 Tertiary prevention

Tertiary prevention is appropriate for individuals who have developed substance use disorders and substance use problems. It entails instituting measures to restore them to the best possible level of functioning and/or to minimize the negative aspects of a disease. This form of prevention may be used, for example, to prevent Wernicke's

encephalopathy in alcohol dependence or to engage in harm reduction for injecting drug users, such as safer injecting techniques to reduce risks associated with injection drug use and the transmission of blood-borne diseases.

3.2 PRIMARY HEALTH CARE

Primary health care is said to offer the best way of coping with the major health concerns of the 21st Century, including the globalization of unhealthy lifestyles such as hazardous and harmful use of psychoactive substances (WHO 2008). Nurses working in primary health care settings are ideally placed to promote the health of individuals and families, as they often have enduring professional relationships with patients, have contact with their patients across the lifespan and are likely to be acquainted with important determinants of the health of their patients such as life circumstances (WHO 2008).

The vision for the 21st Century is primary health care that is the hub of coordination of care and networking with the community and other service providers (WHO 2008). The other service providers include specialized prevention services (e.g. cancer screening); specialized care (e.g. diabetes clinics, maternity units, community-based mental health units, addiction services); hospital services (e.g. emergency departments, medical wards); social services; and non-governmental organizations and self-help groups, such as Alcoholics Anonymous.

Using this model of care, professionals working in the primary health care setting will generally be the first point of contact with the health care system, coordinating prevention, treatment and care and ensuring that services are provided as close to home as possible (WHO 2008).

It is estimated that hazardous and harmful drinkers may constitute up to 20% of patients in primary health care (Lock et al. 2006) in some countries. Individuals who use other psychoactive substances also use primary health care services, although to a lesser extent (Gerada & Waller 2004).

Effective screening and brief interventions in primary health care are central to the public health effort to reduce the prevalence of hazardous and harmful use of psychoactive substances.

3.3 HOSPITAL SERVICES AND SPECIALIZED CARE

Binge drinking and regular consumption of alcohol at potentially harmful levels place young people at increased risk of having unprotected sex and of consequential unplanned pregnancy. Low birth weight, fetal abnormality and spontaneous abortion are known to rise with increasing levels of alcohol consumption during pregnancy

(McFarlane et al. 1996, Larroque et al. 1993). Maternal cocaine use is known to adversely affect the fetus, causing vasoconstriction and hypertension, and is associated with premature birth and placental abruption (ACOG 1994).

Midwives and obstetric nurses need to be alert to the particular effects of maternal substance use on the mother and fetus, and those working with families should be able to evaluate and address the health and social consequences of substance use by any family member. Midwives, obstetric nurses and nurses working with children, such as paediatric, family health and public health nurses, also have contact with women and family members who use psychoactive substances that have implications for pregnancy, delivery, and infant and child health. Addressing the issue may involve a range of responses that include direct action or referral to specialist addiction or social care services. Effective screening is therefore essential to guide decisions about selecting and delivering appropriate interventions.

In the United Kingdom, it is estimated that one in six people who visit emergency departments have alcohol-related injuries or problems that arise from intoxication (Cherpitel et al. 2005, NHS Quality Improvement Scotland 2006). In 2006, about 958 164 visits to hospital emergency departments in the USA were recorded as related to substance use, the majority of which were associated with cocaine use (SAMHSA OAS, DAWN 2006). National data from Australia suggest that opioids are the main drugs associated with hospital visits. In 2003/04, there were an estimated 1 519.21 such visits per million people, representing an upward trend over a ten-year period, the equivalent figure for 1993/94 being 832.23 visits per million people (NDARC 2006). There is also substantial evidence of an increase in the frequency with which hazardous and harmful drinkers are admitted to inpatient care in general hospitals (AIHW 2005, ISD 2009, NIAAA 2009).

The number of admissions to mental health services as a consequence of hazardous or harmful use of alcohol or other psychoactive substances has also risen in recent years (ISD 2009). Therefore nurses need to be able to assess the impact of substance use and misuse on the health and well-being of all family members so as to take appropriate action and offer relevant support.

As a consequence of working in any of the above settings, nurses and midwives provide care at some level or other to clients/patients who experience problems associated with psychoactive substance use. Their roles range from treating trauma sustained as a consequence of intoxication to detoxification and supporting clients/patients in psychosocial interventions designed to prevent relapse of dependence. Regardless of the setting or specialty in which they work, however, nurses and midwives have opportunities to screen patients so that they can deliver

interventions to prevent or reduce the harms associated with substance use. This role is the focus of the review.

4 BRIEF INTERVENTIONS

Babor and Higgins-Biddle (2001) describe brief interventions as activities that are characterized by low intensity and may range from five minutes of simple advice to several sessions of brief counselling to address more complicated conditions.

There is convincing evidence for the efficacy of brief interventions in primary and secondary care settings for hazardous or harmful alcohol use when delivered under research conditions (Kaner et al. 2007, Holloway et al. 2007, Moyer & Finney 2002). The evidence for their impact on users of other substances, such as cannabis, benzodiazepines, amphetamines and cocaine, is less strong but is growing (Henry-Edwards et al. 2003, McCambridge & Strang, 2004).

Brief interventions have been shown to be cost-effective for hazardous drinkers whose alcohol use places them at risk of alcohol-related problems, but who have few, if any, symptoms of dependence on alcohol (Solberg et al. 2008, Babor & Higgins-Biddle 2001). They can be delivered by health care professionals who have a public health function but who have not received specialist training in substance abuse, such as nurses who work in primary health care or hospital settings (Babor & Higgins-Biddle 2001, Kaner et al. 2007), and in antenatal care (Chang et al. 2005). Several studies have demonstrated the effectiveness of brief interventions in reducing heroin, cocaine, amphetamines and cannabis use (e.g. Mitcheson et al. 2007, Ondersma et al. 2007, Bernstein et al. 2005, McCambridge & Strang 2004), and also for harmful use of prescribed benzodiazepines (e.g. Bashir et al. 1994).

Brief interventions can be used to encourage those with more serious dependence to engage or improve compliance with more intensive treatment (Henry-Edwards et al. 2003, Baker et al. 2002, Martino et al. 2000), or to discourage injecting drug users from initiating non-injectors into injecting practices (e.g. Hunt et al. 1998).

Brief interventions often include screening people to identify hazardous and harmful substance use, as well as providing simple advice about associated health problems in a non-confrontational way, and to motivate and support the client/patient to think about behaviour change in relation to their use of psychoactive substances. Accurate assessment is the key to detecting problems that may arise from psychoactive substance use. Without screening nurses and midwives may fail to recognize and identify problems of hazardous and harmful use, and consequently miss opportunities for providing appropriate information and treatment. In addition, those patients whose psychoactive substance use places them at risk of developing

withdrawal symptoms may not be detected until serious complications become evident.

Nurses and midwives have many opportunities to identify psychoactive substance users, for example during interactions with clients and family members in their homes, assessment for hospital admission, registration of new patients in primary care, general health checks and antenatal appointments. The extent to which they do and whether they screen for use of all potentially hazardous and harmful substances are part of this review.

5 THE STUDY

The purpose of this study was to review the literature on the involvement of nurses and midwives in screening and brief interventions for hazardous and harmful use of psychoactive substances. The study was also aimed at:

1. identifying key strategies for enhancing the role of nurses and midwives in the prevention of psychoactive substance use in health care settings;
2. documenting best practices on the involvement of nurses and midwives in screening and brief interventions for hazardous and harmful use of psychoactive substances;
3. identifying and describing barriers to and best practices in the involvement of nurses and midwives in psychoactive substance use prevention; and
4. giving recommendations for demonstration projects and/or scaling up interventions, including capacity-building interventions, for nurses and midwives.

5.1 METHODS

This section describes the methods that were adopted to search, retrieve and review the literature in order to achieve the above objectives.

5.1.1 The search strategy

The search was undertaken by a team of nurses whose research and clinical backgrounds included general and mental health nursing in primary and hospital settings. A sociologist, who is a researcher in the field of addictions, and a statistician also contributed to the review.

The following bibliographic databases were searched:

- British Nursing Index
- CINAHL
- Medline
- PsychInfo (which includes ASSIA)
- Cochrane database of systematic reviews

- WHO website

Search terms included:

NURS* or MIDWI*

and

SCREEN* or BRIEF INTERVENTION* or MINIMAL INTERVENTION* and ALCOHOL* and DRUG USE, DRUG ABUSE, DRUG MISUSE, SUBSTANCE USE, SUBSTANCE ABUSE, SUBSTANCE MISUSE, ILLEGAL DRUG USE, ILLICIT DRUG USE, NARCOTIC USE, NARCOTIC MISUSE, PSYCHOACTIVE DRUG.

The literature search was confined to literature that was published in English between 1990 and 2008. The searches were carried out between July 2008 and February 2009.

The abstracts were assessed for relevance by two of the team members. Decisions on which literature should be included in the review were determined by scrutinizing the abstracts for whether or not nurses or midwives were involved in (a) screening or (b) brief interventions. If neither criterion applied, the article was excluded from the review. If both criteria were fulfilled, the reviewers used a data extraction sheet in order to standardize the review process. If the abstract and keywords did not yield sufficient information to ascertain potential for inclusion, the full paper was retrieved.

Full text versions of papers that fulfilled the above criteria were retrieved and reviewed.

5.1.2 The literature review

A form, based on the Critical Appraisal Skills Programme (CASP) tools developed by the Centre for Evidence Based Medicine in the UK, was developed for the purpose of the review. The available papers were examined thoroughly and concurrently by the team of reviewers. The articles that were reviewed included discussion papers, descriptive studies, surveys, reviews of literature and randomized controlled trials. The team met regularly to maximize consistency in the review process and to discuss any disagreement that occurred. Any disagreement was resolved by discussion and consensus, or the judgement of the lead researcher.

5.2 FINDINGS

The literature search led to the identification of a large number of publications that were discussion papers which often referred to, rather than reported, primary research. They have been included in the review as they highlighted good practice and barriers to its attainment. Efficacy studies of screening and brief interventions in

which nurses or midwives played some part, and descriptive studies of nurses' or midwives' practice in relation to screening and brief interventions were also retrieved. In addition, the search led to the identification of studies of nurses' attitudes to substance users, their relevant knowledge and the effect of educational initiatives or interventions on their practice.

The locations in which screening or brief interventions were run included primary health care settings; hospitals, including emergency departments, medical, surgical, orthopaedic, dermatology and otolaryngology inpatient facilities; specialist services, including mental health institutions, nurse practitioner clinics, prenatal and postnatal clinics and dental clinics; and other settings not traditionally associated with health care and health promotion, such as schools, prisons and legal courts. A few papers did not specify the setting. A small number of papers described the role of the nurse in relation to particular subgroups, such as adolescent girls who are pregnant, imprisoned female offenders or older women. Few papers focused on the role of the nurse or midwife in screening only. One of the empirical studies was conducted in the Vhembe district of South Africa, where the population is predominantly black African. One study was conducted in Taiwan, and one in Hong Kong. All other publications emanated from the UK, Scandinavia, North America and Australia.

Most publications related to screening and/or brief interventions for alcohol use; few related to the use of other psychoactive substances, such as opiates, stimulants, hallucinogens or tranquillizers.

It should be noted that there is a large body of evidence of the effectiveness of screening and brief interventions in alcohol and other psychoactive substance use that is not mentioned in this report. These sources were excluded because the review was solely concerned with literature that relates to the involvement of nurses and midwives in these activities. We acknowledge that much of the work in this field has been undertaken by other members of the health care team, such as psychologists and physicians. We do not claim that such work is irrelevant to screening and brief interventions carried out by nurses and/or midwives. The study does not go into details on the different brief interventions methods.

5.3 STRUCTURE OF THE REST OF THE REPORT

The next section discusses literature on the involvement of nurses and midwives in screening for hazardous and harmful use of alcohol and other psychoactive substances. This is followed by the presentation of findings from research on the involvement of nurses or midwives in brief interventions. Findings from research on the extent to which nurses and midwives have engaged in these activities are discussed in the next section. Subsequent sections report factors that have been shown to influence their practice and document best practices for nurses, midwives,

educationists and those who are responsible for organizational issues that support practice. The report concludes with recommendations for policy makers, researchers, educationists and practising nurses and midwives.

Summaries of the studies cited are presented in Tables 1 to 11.

6 SCREENING FOR HAZARDOUS OR HARMFUL USE OF ALCOHOL AND OTHER PSYCHOACTIVE SUBSTANCES

6.1 INTRODUCTION

As discussed in Section 4 of this report, screening precedes a brief intervention, with accurate screening being essential for sound decisions about interventions.

In this section, discussion papers on the role of nurses or midwives in screening for hazardous or harmful substance use and reviews of screening tools are presented. In addition, reports of empirical studies that focused on evaluating novel approaches to screening for hazardous or harmful use of alcohol or other psychoactive substances are reviewed. Summaries of the publications are presented in Table 1. The body of literature that addresses both screening and brief interventions is presented in Section 7.

A large number of screening instruments for the purpose of identifying hazardous or harmful substance use are available. Some relate to specific substances and some are client group specific. The Alcohol Use Disorders Identification Test (AUDIT) was developed by the WHO specifically for use in primary health care institutions and is a well validated screening tool for the identification of hazardous and harmful drinkers (Babor et al. 2001). Early developmental work on its validation was conducted in Norway, Australia, Kenya, Bulgaria, Mexico and the USA (Saunders et al. 1993a; 1993b).

6.2 PRIMARY HEALTH CARE SETTINGS

In a discussion paper, Caulker-Burnett (1994) contended that all primary health care practitioners including nurses in the USA need to be able to recognize hazardous or harmful substance use and should attempt to motivate substance users to accept early interventions. She recommended the CAGE instrument as a useful screening tool, modified to include statements about the use of psychoactive substances as well as alcohol. McPherson and Hersch (2000) reviewed a number of screening instruments that may be used in primary health care to identify hazardous or harmful substance use among patients. While noting that the focus of many screening tools is the detection of dependence, they identified the AUDIT as an instrument for screening for early detection of hazardous or harmful drinking in primary health care settings. In contrast, they concluded that, at the time of writing, there was no valid

and reliable instrument that could easily be incorporated with practices and processes in primary health care for screening for use of other substances. Ragiakis (2004) presented a detailed description of several screening tools that were considered appropriate for use in hospital settings to identify hazardous or harmful drinking. It was noted that the CAGE had the best overall sensitivity and specificity. However, Ragiakis commented that it screened for long-term harmful use of alcohol, whereas the AUDIT screened for both hazardous and harmful drinking.

Armstrong and Holmes (2005) reported findings from a small-scale evaluation in the USA of the impact of family nurse practitioners' screening for hazardous and harmful use of alcohol and other psychoactive substances. The evaluation followed a 20-minute training session on using the RAPS (Remorse, Amnesia, Performance and Starters) screening tool. Subsequently, five family nurse practitioners participated in the study and agreed to screen patients over a one-month period in order to assess their substance use. Altogether 192 patients attended a particular clinic over the one-month period. The authors reported that analysis of patients' records over that period showed that the nurses did the standardized screening for substance use disorders in 6.7% of the time. Although they asked 27% of patients about substance use as recorded in the patients' notes, they did not use the RAPS tool routinely. This study was limited by its very small sample size and its lack of standardized pre-testing and post-testing.

Leung et al. (2007) reported on a pilot study of a computerized mental health assessment, which included items on alcohol use. An opportunistic sample of 31 patients who were attending a nurse-led health clinic affiliated to a university in Hong Kong volunteered to complete the computerized mental health assessment while waiting for their appointment. Most of them found the kiosk easy to use and felt they had a better understanding of their mental health after going through the process. However, half of them said that they would have liked to have undertaken the assessment with a staff member present, rather than alone. Several of them found it hard to understand the diagram explaining the calculation of alcohol content of one standard drink. Given that the setting was a nurse-led clinic, the assessment could indeed have been carried out with the support of a nurse. The use of an opportunistic sample and the small sample size limited the extent to which the results were generalizable, which the authors acknowledged. Nevertheless, since this was a pilot study, it has potential for further research with a larger and more diverse sample. From a practical perspective, the use of technology in screening can help the nurse to determine the appropriateness of a brief intervention.

Seale et al. (2008) described a study designed to assess the feasibility of using the single alcohol screening question (SASQ) during routine nursing practice in a rural clinic, and to determine its effect on alcohol screening and intervention rates in five

primary health care centres in the USA. After implementation of the screening process, identification of hazardous or harmful alcohol use rose from 14.6% at baseline to 20.0% ($p=0.027$), and intervention rates rose from 6.3% to 11.8% ($p=0.039$). However, no details of the content of the intervention were given. Since no control group was recruited and no patient outcome data were collected, the impact of the intervention on the clients/patients is not known.

6.3 HOSPITAL SETTINGS

This section presents a review of literature on screening in emergency departments and inpatient hospital wards. Summaries of the studies reviewed are given in Table 1.

6.3.1 Emergency departments

An emergency department (also called “emergency room”, “emergency ward”, “accident and emergency department”, “casualty department”) provides short-term treatment for medical emergencies. Because of their short-term treatment, minor injury units, which are nurse-led units for the treatment of minor injuries and illnesses, are included under emergency departments in this section. There is some evidence to support screening of patients in emergency departments for hazardous and/or harmful use of alcohol, with subsequent delivery of a brief intervention (SIGN 2003).

Fletcher (2004) describes a range of screening tools that have been validated specifically for use in emergency departments, namely the Paddington Alcohol Test (PAT), which was developed by Smith et al. (1996) and the Fast Alcohol Screening Test (FAST), which is a modified version of the AUDIT (Hodgson et al. 2001). The FAST questionnaire can be completed in one minute and has higher sensitivity and specificity than the AUDIT when used in emergency departments (Health Development Agency 2002). Smith et al. (1996) point out that FAST is not a diagnostic tool, and state that patients with high scores should be offered more profound assessment at a later point when the emergency is over and the patient is more likely to benefit from a brief intervention.

Screening can be undertaken by means of an oral interview or a self-complete questionnaire (Babor et al. 2001). However, this can be difficult in emergency departments, as patients often present with acute health needs and privacy is a problem. A series of studies of computerized screening was reported by a team of researchers (Karlsson et al. 2005, Nordqvist et al. 2006, Bendtsen et al. 2007). They tested the acceptability of computerized screening for hazardous and harmful alcohol use at two emergency departments in Sweden. Nurses were asked to invite patients to participate in the screening by using a touch screen located in the triage room. The screening comprised two questions from the AUDIT-C. The patients then received a

printout with personalized feedback on their drinking habits as calculated by the computer. Altogether 54 members of the nursing staff completed questionnaires at baseline. The 48 questionnaires that were completed one year later showed a statistically significant increase in the percentage of nurses who found it easy to ask patients to take part in the screening. Over 75% of nurses felt that it did not affect their workload and only 10% reported any negative reactions from patients. Despite this, only between 10 and 20% of eligible patients were screened (Bendtsen et al. 2007). Fifty two-hour episodes of nursing activity were observed, during which 55% of eligible patients were asked to complete the computerized screening (Karlsson et al. 2005). Considerable variation in nurses' rates of screening was noted. The studies which examined the nurses' attitudes towards screening are reported in Section 9 of this review (Karlsson et al. 2005, Nordqvist et al. 2006).

6.3.2 Medical and surgical wards

Three studies of screening by nurses in hospitals are discussed here. Watson (1999a) reported a study that was conducted in medical, surgical and orthopaedic wards in a hospital in the UK to assess the reliability and validity of an alcohol problems questionnaire. The tool was measured against a retrospective diary of the previous week's alcohol use and the AUDIT as the "gold standard". Predictive validity was assessed by analyzing the correlation between the problem score, the number of alcohol-related problems that were self-reported, and serum gamma glutamyl transferase (GGT) and aspartate transaminase (AST). The stability, internal consistency, and concurrent and construct validity of the tool were demonstrated. In a study conducted in a general hospital in the UK, Holloway and Watson (2000) established the concurrent validity of AUDIT against the SADD. Leung and Arthur (2000) evaluated the content validity, test-retest reliability and construct validity of AUDIT in Hong Kong by administering it to a sample of 450 primary health care and general hospital patients. The instrument was translated and 18 items were added to improve its cultural sensitivity. The 18-item AUDIT was found to be a reliable and valid instrument in the context of the Chinese culture.

Shu-I et al. (2008) compared the performance of several versions of the AUDIT (AUDIT-C, AUDIT-4, AUDIT-3), TWEAK, SMAST and CAGE to detect hazardous drinking in patients in medical and surgical wards in a Taiwanese hospital. The screening tools were administered by nurses who had received training in the procedures. The results were compared blindly with the reference standard Schedule for Clinical Assessments in Neuropsychiatry. Of the 404 patients screened, 100 were identified as hazardous drinkers. All screening instruments showed acceptable sensitivities (ranging from 85 to 93%) and specificities (ranging from 72 to 92%), but AUDIT and its short forms performed consistently better than the other instruments. The authors concluded that the Mandarin Chinese versions of AUDIT and its derivatives performed well in screening hospitalized Taiwanese patients for hazardous drinking. Furthermore, this study demonstrated that both the ten-item and

shortened versions of AUDIT could be used by nurses when given appropriate training.

6.4 OBSTETRIC/MATERNITY CARE

Screening for hazardous or harmful use of alcohol and/or other psychoactive substances is of particular importance for pregnant women because of the potential effects on both the woman and the fetus. Bad Heart Bull et al. (1999) suggested that the specific needs of native American women who are pregnant warrant a new assessment tool. These authors described the validation of the self-administered questionnaire (SAQ), which was developed from an instrument that is widely used to screen pregnant women, namely the T-ACE. Bad Heart Bull et al. (1999) modified two of the questions and added questions about the quantity and frequency of alcohol use. Information from the women's medical records and an interview with a nurse were used to assess the sensitivity and specificity of the SAQ. However, since no assessment was made of the instrument's stability, internal consistency or construct validity, its reliability and validity were not established.

In highlighting ethical and legal issues associated with screening pregnant women in the USA, Hulsey (2005) cited instances where women were prosecuted for prenatal substance use, under the pretext that it was a form of child abuse. Raising similar issues, Foley (2002) stated that the American Nurses Association and the American Medical Association were opposed to screening pregnant women for the purpose of prosecution. Foley claimed that screening women without their consent risked breaching the therapeutic relationship between health care provider and patient. She pointed out that nurses were responsible for the care of mother and fetus, had a role in referring women to drug treatment and social services and played a supportive role by encouraging women to engage in appropriate treatment. Hulsey (2005) contended that nurses had a responsibility to advocate patients' rights and should seek consent explicitly on health grounds from pregnant women before screening for alcohol and/or other psychoactive substance use. Both Hulsey (2005) and Foley (2002) recommended that nurses use questionnaires to assess risk but neither author suggested a specific tool.

Two review papers discussed the importance of screening pregnant adolescents for hazardous or harmful substance use (Bragg 1997, Richardson 1999), and concluded that nurses who were in contact with this client group were in an ideal position to identify indications of substance use and to provide education, initiate intervention and make referrals to specialist services.

6.5 SUMMARY

A summary of the studies reviewed in this section of the report is presented in Table 1. The reviewed literature highlighted the importance of nurses working in a wide range of clinical settings to screen for hazardous or harmful substance use so that appropriate interventions could be delivered. The publications reviewed included discussion papers and literature reviews that focused on screening by nurses or midwives of patients in primary health care; hospitals, including emergency departments and inpatient wards; and obstetric/maternity services. Foley (2002) and Hulsey (2005) raised issues of consent and confidentiality in relation to screening pregnant women. However, consent and confidentiality are important concerns for nurses and midwives in all aspects of their practice.

Screening could be undertaken by means of an oral interview or a self-complete questionnaire (Babor et al. 2001). However, screening could be difficult in emergency departments, where patients often presented with acute or critical health needs and where privacy was compromised. The need for quick and easy screening in busy emergency departments led to the development and testing of computerized screening in Sweden (Karlsson et al. 2005, Nordqvist et al. 2006, Bendtsen et al. 2007). It was also piloted in a nurse-led health clinic affiliated to a university in Hong Kong (Leung et al. 2007). Computerized screening showed potential to augment nurse-led screening, but further research on a larger sample was required. If found to be effective, this form of screening could be developed to provide an automated prompt for nurses and midwives to deliver brief interventions in cases of positive screening.

The AUDIT and its derivations were the most commonly recommended tools and were subjected to testing in Asia and the UK, which testing yielded evidence of their validity (Leung & Arthur 2000, Shu-I et al. 2008, Watson 1999a, Holloway & Watson 2000).

The review confirmed the relevance of screening by the nurse and the midwife.

While this section has focused on the literature regarding the screening of patients under research conditions, Section 8 examines the extent to which nurses and midwives incorporated screening into their routine practice.

7 BRIEF INTERVENTIONS, INCLUDING SCREENING

7.1 PRIMARY HEALTH CARE

7.1.1 Introduction

This section of the review focuses on efficacy studies in which nurses who work in primary health care were involved in brief interventions for hazardous or harmful alcohol use. Summaries of the publications reviewed are presented in Table 2. No publications on brief interventions for hazardous and/or harmful use of other psychoactive substances in primary health care in which nurses were involved were identified.

The literature that reports nurses' actual practice and the factors that influence their involvement in screening and brief interventions is presented in Sections 8 and 9.

7.1.2 Studies reviewed

In a randomized controlled trial in Canada, Israel et al. (1996) compared the cost-effectiveness of a three-hour cognitive behavioural counselling session delivered by a nurse to patients in a primary health care practice. Simple advice was given about reducing the consumption of alcohol. After one year, patients who received counselling showed highly significant reductions in reported alcohol consumption, psychosocial problems and GGT. They also used primary care services to a significantly lesser extent than those who were simply advised to cut down their drinking.

McIntosh et al. (1997), also in Canada, compared two 30-minute brief alcohol interventions delivered by a nurse and a doctor in a family practice, and a five-minute session of brief advice by a doctor. The patients in the group who were addressed by the nurse showed a greater mean percentage reduction in alcohol use at follow-up. However, the differences were not statistically significant, and no differences were found between the groups at three-, six- and 12-month follow-up, suggesting that the brief interventions delivered by the nurse were as effective as the others.

The brief interventions of a nurse were found to be effective in a randomized controlled trial of individuals who visited a primary health care centre in Stockholm for a health check (Tomson et al. 1998). The participants were recruited for the study on the basis of a raised GGT and positive score on the CAGE questionnaire. The interventions comprised up to three consultations with a nurse, during which the focus was on lifestyle in general and alcohol use in particular. No information was given about the duration of the consultations. Those in the treatment group reported statistically significant lower GGT levels and reductions in alcohol use at the two-year follow-up. In contrast, the mean GGT levels in the control group rose. However, a

weakness of this study was the unavailability of baseline data on alcohol use for the control group.

In a randomized controlled trial conducted in primary care in the USA, Ockene et al. (1999) found, at the six-month follow-up, that screening and brief interventions by physicians and nurses were effective in helping high-risk drinkers to reduce their alcohol consumption significantly. The randomized sample of patients in the intervention group received a five- to ten-minute patient-centred counselling session and were invited to make an appointment to review their progress. At the 12-month follow-up, statistically significant reductions in alcohol use had been maintained by those who received the intervention (Reiff-Hekking et al. 2005).

Fleming et al. (2002) conducted a randomized controlled trial and economic evaluation of a brief intervention for hazardous and harmful alcohol users. The participants in the treatment group reported significant reductions in alcohol use and the economic evaluation suggested that substantial savings in health care costs could be achieved as a result of early intervention. However, the role of the nurse in this study was confined to making two five-minute follow-up telephone calls to reinforce the advice given in the brief intervention delivered by the physician.

Lock et al. (2006) also conducted a randomized controlled trial and economic evaluation of a brief intervention for hazardous and harmful alcohol use. Forty primary health care practices were randomly selected and the nurses of the intervention practices received 30 to 60 minutes' training in screening and a five-minute to ten-minute intervention. They were also given a protocol for carrying out these activities. Those in the control practices were asked to screen patients and give them a pamphlet on low-risk drinking. Most of the patients in both groups reported reduced alcohol use between baseline and the six-month follow-up, but no significant effects were found. Furthermore, the economic analysis suggested that the brief intervention had led to no statistically significant changes in subsequent health service resource use relative to standard treatment. The authors suggested that the high attrition rate of nurses reduced the study's statistical power, with 93 nurses having been recruited to the study, but data being available from only 40 at follow-up.

7.1.3 Summary

The studies reviewed in this section, and summarized in Table 2, show potential for nurses, under research conditions, to be effective in screening and brief interventions for hazardous or harmful drinking in primary health care settings. No publications were found concerning brief interventions for hazardous and/or harmful use of substances other than alcohol in which nurses were involved. Although there are reports on the impact of brief interventions for users of cannabis, benzodiazepines, amphetamines and cocaine (Henry-Edwards et al. 2003), none of them involved nurses or midwives.

In the studies that were reviewed, nursing involvement ranged from making two five-minute follow-up telephone calls to reinforce the advice given in the brief intervention by a physician (Fleming et al. 2002) to a three-hour cognitive behavioural counselling session (Israel et al. 1996). The study by Israel et al. (1996) on the three-hour session showed the greatest effect, but significant effects were also found for the much shorter interventions tested by Ockene (1999). McIntosh et al. (1997) found that the 30-minute intervention by a nurse was as effective as that by a physician. The debate about the optimum duration of a brief intervention was highlighted in a systematic literature review by Hyman (2006).

A substantial number of nurses who participated in a study reported by Lock et al. (2006) dropped out in the course of the study. This rendered the effects of the intervention statistically insignificant. Factors that appear to inhibit nurses' involvement in alcohol prevention are discussed in Section 9.

Studies identified by the literature search were limited to research conducted in Canada, the USA and Scandinavia. It appears that no research was published on this topic that involved nurses or midwives of other parts of the world. It is a matter of concern that low-income or middle-income countries do not have an evidence base for practice in this regard.

7.2 HOSPITAL SERVICES

7.2.1 Emergency departments

Four studies that were conducted in emergency departments and involved nurses to some extent are discussed below and are summarized in Table 3.

Brooker et al. (1999) described difficulties in conducting a randomized controlled trial of brief alcohol interventions in an emergency department, previously described by Peters et al. (1998). The triage nurses received training in the use of CAGE to screen patients. The screening was estimated to add at the most two minutes to the triage procedures. Those patients who screened positive were given feedback by their

named nurse, who also offered them a specialist outpatient clinic appointment. All patients who accepted an appointment were randomized either to receive a brief intervention (a counselling session of up to three hours in one or more sessions with a clinical nurse specialist for alcohol plus a self-help booklet) or a self-help booklet only. Despite 16 654 attendances at the department during the recruitment phase, only 20% were screened. Of these, 19% fulfilled inclusion criteria. Fewer than half of the eligible patients were given feedback and 88% of the patients refused the intervention. The study was consequently abandoned. The nursing staff were interviewed to understand the low rate of screening and referral. It was found that the nurses, contrary to expectation, found the screening to be an additional activity that they felt delayed patients' treatment. About half of the nurses felt that it was judgemental and inappropriate for them to question patients about alcohol consumption in the emergency department. It also emerged that the nurses had felt pressurized to participate in the study and felt no sense of ownership or control.

Daeppen et al. (2007) assessed the effect of a brief intervention for hazardous drinkers among patients who visited an emergency department of an urban teaching hospital in Switzerland for treatment of injuries. Patients who consented to take part in the study were randomized to receive a brief intervention after screening and assessment; screening and assessment without the intervention; or screening only. At the 12-month follow-up, it was found that the patients in all groups had reduced their use of alcohol to a similar extent. The authors suggested that the bustle at the emergency department may have constrained the extent to which the patients and the interventionist could develop an empathetic relationship, thus limiting the potential effect of the intervention. In this study, the nurse facilitated communication between the researchers and the emergency department staff and was not directly involved in the intervention.

Similar findings were reported by Dent et al. (2008) from a study conducted in an emergency department in a city-centre hospital in Australia. Patients identified as hazardous or harmful drinkers by the Paddington Alcohol Test were allocated to receive standard care, or a brief intervention on the same day by an emergency nurse or doctor, or an appointment for motivational interviewing by off-site drug and alcohol counsellors within one week. At the three-month follow-up, the patients in all groups reported having decreased their daily alcohol use significantly. The authors concluded that neither the brief intervention nor the motivational interviewing was better than standard care in reducing hazardous and harmful alcohol use. However, it may be that the screening process had been sufficient to motivate the participants to reduce their consumption.

Cummings et al. (2006) conducted a study to assess the feasibility of having registered nurses screen patients and deliver interventions for a number of health

problems, including substance use, while waiting for treatment at an emergency department in a Canadian hospital. A sample of 2 366 patients was recruited. Computerized screening, which included questions from CAGE, identified 1 011 patients (43%) as having problems associated with substance use. They were referred for a nurse-led intervention. Most of the positive screens related to alcohol use (55.1%), but a substantial number were users of other substances (13.7%) or users of alcohol and other substances (28.1%). Attempts were made to follow up by telephone all of those who had received counselling at 30, 60 and 90 days after the intervention. However, only 2% of the 634 patients could be contacted at any follow-up period, leaving the outcomes of the intervention largely unknown. The study showed that computer-based screening and a health promotion intervention were feasible in a busy emergency department and did not increase waiting times. Lack of outcome data was a major limitation of this study, though.

In summary, the publications reviewed in this section are captured in Table 3. One of the four studies conducted in emergency departments addressed brief interventions for substances other than alcohol. None showed significant effects for brief interventions. While there was no evidence of their effectiveness, however, none of the studies showed that the patients who received the interventions fared less well than those in the control groups. The potential impact of the screening to trigger change was a feature of many studies (Kaner et al. 2007). Although the studies reported by Brooker et al. (1999) and Peters et al. (1998) had to be abandoned, important lessons could be learned about the need to involve nurses in decisions about introducing changes to their practice. The nurses felt that the requirement for them to screen patients as part of the study had not been negotiated with them. Theories of change management, supported by empirical evidence, indicate that democratic and inclusive decision making are key to successful implementation (Rycroft-Malone et al. 2004). The nurses might have been more willing to screen patients if they had felt more engaged in the decision to make this change to their practice.

As will be shown in the next section, there is good evidence that nurses can provide effective brief interventions in outpatient clinics for patients who have sustained an injury, suggesting that the timing of the intervention and the environment in which it is delivered should be considered.

7.2.2 Inpatient settings

The following section presents a review of the literature on screening and brief interventions for hazardous or harmful psychoactive substance use in which hospital nurses were involved. The studies are summarized in Table 4.

Watson's (1999b) study evaluated the relative effectiveness of (a) a stand-alone brief counselling session, (b) a brief intervention supplemented by a health education pamphlet on alcohol, and (c) the pamphlet alone, against a control group who received no intervention at all. A convenience sample of 998 hospital inpatients was recruited for the study, of which 225 patients were identified as either hazardous or harmful drinkers. The 153 patients who fulfilled the study's inclusion criteria were allocated to one of four treatment groups. At follow-up one year later, statistically highly significant reductions were found in alcohol use, alcohol-related problems, GGT and AST, and the treatment group who received the brief intervention plus the pamphlet demonstrated the greatest reductions.

Using a pre-test post-test design, McManus et al. (2003) conducted a study of five medical wards in a hospital in England to compare the effectiveness of their brief intervention for medical inpatients with problem drinking. A nurse counsellor held two sessions of counselling with each patient. The effectiveness of the intervention was assessed during an interview six months following the admission. The brief intervention led to a statistically highly significant reduction from a median of 49 drinks per week at admission to 17 drinks per week at the six-month follow-up. As no control group was recruited, the internal validity of the study was compromised. Nonetheless, the changes that were achieved were not only statistically significant but probably also clinically significant for many of the patients. A second counselling session after discharge showed no advantage over a single session delivered while the patient was in the ward.

Holloway et al. (2007) reported a study in which a sample of 215 hospital inpatients received a self-efficacy enhancement brief intervention, a self-help booklet on reducing alcohol consumption or usual care. At six months there was a statistically significant reduction in alcohol use for the self-efficacy enhancement group and the self-help booklet group, compared with the usual care group. There was no evidence that self-efficacy enhancement was superior to the self-help booklet in terms of alcohol use, but the mean self-efficacy score increased. The raised self-efficacy may have influenced drinking behaviour over a longer period of time, but no data were collected beyond the six-month follow-up.

Lopez-Bushnell and Fassler (2004) described a pilot project in a university hospital in New Mexico on a clinical pathway for hospital inpatients who were thought to use alcohol and/or other psychoactive substances. The pathway was developed following discussions with members of a multidisciplinary team and a review of literature on evidence-based practice. The clinical pathway comprised screening of patients who had a substance use-related diagnosis or had been referred by a social worker, nurse, doctor or other medical staff, using the AUDIT and/or DAST tools. The authors maintained that screening was conducted only after consultation between the

substance abuse specialist and the patient's doctor. Those patients who screened positive were asked for a comprehensive substance use history and participated in one to six brief motivational interviews, depending on the length of their hospital stay. The sessions were run by a number of health professionals, including nurses. The authors concluded that hospital nurses had the opportunity to deliver brief interventions to substance-abusing patients who were not necessarily seeking treatment. However, no data on the effectiveness of the interventions were presented.

7.2.3 Outpatient settings

In a randomized controlled trial reported by Smith et al. (2003), hazardous drinkers who had sustained a facial injury and who received a brief intervention from a nurse reported significant reductions in alcohol use and alcohol-related problems, and an improvement in interpersonal relationships. The study was conducted at an oral and maxillofacial surgery outpatient clinic in an urban teaching hospital in the UK. Before the study, the nurses received training in motivational interviewing and top-up training was provided on a monthly basis throughout the study.

In another UK study, surgical nurses conducted screening and delivered brief interventions to a similar client group of 194 individuals who had sustained maxillofacial injuries during the previous two weeks (Goodall et al. 2008, Oakley et al. 2008). In the paper published by Goodall et al. (2008), the patients who received the intervention reported significantly greater reductions in the frequency of alcohol use and the mean number of days of heavy drinking. Those with the highest AUDIT scores at recruitment into the brief motivational intervention group showed the greatest degree of change. The authors concluded that nurses with a surgical background who had been trained to do brief motivational interventions could help injured patients to reduce their alcohol consumption. Goodall et al. (2008) endorsed the findings of Smith et al. (2003).

7.2.4 Summary

Table 4 offers a summary of the studies discussed in Sections 7.2.2 and 7.2.3. The studies of Watson (1999b), McManus et al. (2003) and Holloway et al. (2007) aimed to determine the effectiveness of brief interventions by nurses in hospital wards for hazardous or harmful use of alcohol. Two further studies dealt with interventions by nurses in oral and maxillofacial outpatient clinics. All of these studies were conducted in the UK and investigated brief alcohol interventions.

The interventions reported by McManus et al. (2003) and Holloway et al. (2007) provide evidence of the effectiveness of screening and nurse-led brief interventions for hospital inpatients who were hazardous or harmful alcohol users. The fact that the patients in all groups in Watson's (1999b) study reported significant reductions in alcohol use could be ascribed to the screening, or could have been a consequence of lack of statistical power. The greatest mean changes in drinking occurred in the patients who received the brief intervention augmented by written information, suggesting that health literature could reinforce motivational interventions that are delivered on a personal basis.

Both studies relating to patients with facial injuries reported clear effects for nurse-led brief interventions. The interventions were delivered during an outpatient appointment after the initial treatment of the injury. It may be that, in this environment, and with time for reflection after the injury, the patients were more amenable to the intervention than those patients who received an intervention while visiting an emergency department for treatment of an injury, as was the case in the study conducted by Daeppen et al. (2007).

Lopez-Bushnell and Fassler (2004) described a clinical pathway designed to improve screening and interventions in a New Mexico hospital for inpatients who were hazardous or harmful users of alcohol and/or other psychoactive substances. Rather than adopt opportunistic screening, they planned to screen patients who had a substance use-related diagnosis, but did the screening only after consultation between the substance abuse specialist and the patient's doctor. Only then were patients who screened positive offered an intervention. However, this delay might have compromised successful intervention due to the "teachable moment" being lost.

This body of literature provided considerable support for nurses to embrace a health-promoting role in reducing the impact of hazardous and harmful use of alcohol. However, larger, well-designed studies are required to strengthen the evidence base. It is also clear that further research in relation to nurses providing brief interventions to address risks and harms associated with other substances is needed.

7.3 OBSTETRIC/MATERNITY SERVICES

As noted in the introduction to this literature review, the use of alcohol and/or other psychoactive substances can have serious effects on the unborn child and maternal health. Three publications were reviewed (see Table 5).

Manwell et al. (2000) reported a study of screening and brief intervention for pregnant women in the USA whose alcohol consumption exceeded recommended limits. The intervention was delivered by a physician, with a nurse only making a supportive telephone call to the women two weeks after the intervention.

Chang et al. (2005) conducted a randomized controlled trial of screening and brief intervention for prenatal alcohol use where a partner was involved. The aim was to test the hypothesis that the women randomized to the brief intervention with their partner would reduce alcohol consumption to a greater extent antenatally than those who received usual care. In total, 304 pregnant women who were recruited on the basis of positive screening by the T-ACE agreed to take part in the study together with their partners. (The T-ACE is a standardized tool for use with pregnant women.) They were then randomly assigned to receive a 25-minute brief intervention from either a nurse or the principal investigator (a doctor), or to receive usual care (control group). At follow-up, alcohol use was found to have declined in both groups. However, as the authors noted, this was not unusual in women during pregnancy. The brief intervention was found to be significantly more effective in reducing the frequency of drinking among those women whose alcohol use was greater at entry to the study. No distinction was made in the analysis between the interventions by the nurse and the medical staff. A subgroup analysis of the effect of partner involvement in the brief intervention showed that the intervention was significantly more effective for the heavier-drinking women when their partners were also involved in drinking.

Doggett et al. (2005) conducted a Cochrane review of evidence of the impact of home visits during and after pregnancy for women with a history of hazardous or harmful use of alcohol and/or other psychoactive substances. Among the professionals who were involved in visiting the pregnant women were nurses and midwives. The authors flagged up potential benefits in terms of better engagement of these women in drug treatment services, improved pregnancy and neonatal outcomes, better mother-infant interaction and reduced substance use. However, the authors concluded that there was insufficient evidence, due to the low number and methodological weaknesses of the existing studies, to recommend routine use of home visits to improve substance use outcomes for perinatal women. Furthermore, the home visits described in the studies were not isolated episodes. Rather, they were part of ongoing care and constituted more intense intervention than would be the case for a brief intervention.

7.3.1 Summary

As shown in Table 5, only two studies were identified that tested the effectiveness of brief interventions in maternity settings, both of which addressed hazardous or harmful use of alcohol, and both of which were conducted in the USA. The role of the nurse in the study reported by Manwell et al. (2000) was limited to making a supportive telephone call to the women two weeks after the intervention which had been delivered by a physician, whereas the intervention in the study conducted by Chang et al. (2005) was delivered either by a nurse or a doctor. Both studies demonstrated significant benefits in terms of alcohol use, supporting evidence for the implementation of screening and brief interventions into the routine practice of staff, including midwives/obstetric nurses who are involved in antenatal care.

As a consequence of the low number of studies on the impact of home visits during and after pregnancy for substance using women and the varied quality of the empirical evidence, Doggett et al. (2005) concluded that there was insufficient evidence to justify recommending home visits for this client group.

7.4 MISCELLANEOUS GROUPS AND SETTINGS

7.4.1 Introduction

Several publications addressed issues concerning hazardous and/or harmful use of alcohol and other substances in relation to particular groups of people. These are summarized in Table 6. The groups included children and young people, women, and older people. In addition, studies that were conducted in settings that are not formally aligned to health services, such as schools and workplaces, are reviewed in this section. A study conducted in a sexual health clinic is also reviewed.

7.4.2 Schools

Werch et al. (2003) reported findings from a study of the effectiveness of a brief intervention by a nurse among sixth grade high school students in the USA during a one-to-one consultation focusing on alcohol avoidance. About six months later, the parents were sent postcards with key facts on what to say to children about alcohol avoidance. The nurses did follow-up consultation one year after the first intervention, and gave a lesson on the enhancement of parent-child communication on the prevention of and knowledge about alcohol use (Werch et al. 2003). The students were randomly assigned to receive the intervention or a pamphlet on young people and alcohol. The pamphlet group acted as the control. The potential for contamination between the groups was not discussed. Analysis of post-test data collected one year after the study began showed that significantly fewer students who had received the intervention reported drinking heavily during the past 30 days, or had consumed alcohol over any period of time, compared to the control group

($p < 0.05$). The fact that the programme comprised several components precluded specific conclusions being drawn about the brief intervention element, but the study showed that a brief intervention could form an important part of a public health initiative.

A nurse-led early intervention for substance users in a Finnish school was evaluated by Pirskanen et al. (2007). Ten public health nurses and other professional staff, totaling 24 participants, took part in focus group interviews to establish their views about a brief intervention programme being tested in junior and senior secondary high schools, and how it might be improved. The programme was based on an assessment of pupils' substance use behaviour on the Adolescents' Substance Use Measurement (ADSUME), a validated questionnaire adapted from the AUDIT (Pirskanen et al. 2007). Pupils who scored at particular levels on the ADSUME received targeted interventions from the school nurses who were recruited to take part in the study. The nurses received no specific training in conducting early interventions. Altogether 376 pupils (aged 14-18 years) agreed to take part in the study, with an almost equal number of boys and girls. Alcohol was found to be the main substance of use, followed by tobacco, and only a small minority (3%) used cannabis. In the focus group interviews the nurses reported that the ADSUME had been useful in helping them to raise psychoactive substance use issues, though they reported some problems with its reliability. With regard to early intervention, the nurses felt that the confidentiality they provided to pupils was an advantage, as was their open-door policy whereby pupils could talk to them at any time. In addition, reaching consensus with individual pupils about what levels of use would be a matter of concern was important. However, the nurses reported finding it difficult to deliver early intervention with pupils who believed that consuming large quantities of alcohol on one occasion was "normal". A number of amendments to the early intervention were made on the basis of these findings.

7.4.3 Sexual health clinic

Lane et al. (2008) highlighted the association between hazardous and harmful alcohol use, unsafe sex and sexually transmitted infections among clients of sexual health services. They published findings from a feasibility study of screening and brief intervention for hazardous and/or harmful alcohol use, delivered by a nurse in a sexual health clinic in Sydney, Australia. Screening, using a hand-held computer into which the AUDIT was programmed, was conducted by a research nurse and the intervention was delivered by one of two nurses who had been trained in brief intervention for alcohol use. A statistically significantly greater proportion of intervention group participants reported reduced drinking compared to the controls ($p < 0.001$). At a three-month follow-up, both the intervention ($n=87$) and the control groups ($n=97$) showed significant reductions in AUDIT scores with greater mean reductions reported by participants who received the intervention. However, the

results did not reach the level of statistical significance. Lane et al. (2008) also surveyed the clinic staff to determine the acceptability of the process to them. The screening and intervention process was reported acceptable by 74% of the patients at follow-up and 71% of the clinic staff. It is not known what proportion of the clinic staff were nurses.

7.4.4 Workplace-based interventions

A relatively small number of studies of screening and brief interventions for hazardous drinkers have been conducted in the workplace and only one in which a nurse was involved appears to have been conducted. Watson et al. (2009) conducted a feasibility study of screening and brief intervention for hazardous drinkers delivered by an occupational health nurse in the workplace. In total, 627 (41.4%) employees of a local authority council who were randomly selected agreed to take part in the screening, using the AUDIT. Of these, 26% were identified as hazardous drinkers, of whom 55 were randomized to a control or intervention group. The intervention was delivered by an occupational health nurse who had been trained in delivering a motivational intervention. Statistical analysis showed that the employees in the intervention group reported greater reductions than those in the control group in terms of frequency of drinking and quantity of alcohol used. At the six-month follow-up, those in the intervention group reported fewer days of use of hospital services and primary care than at baseline, whereas the control group reported increased use of health care resources. The economic evaluation suggested a substantial net saving of resources from the intervention. None of the changes reached levels of statistical significance. However, the aim had been to provide data to calculate the sample size for a fully powered study rather than to show the effectiveness of a brief intervention on alcohol use or health status. The vast majority (92%) of employees who took part found the process acceptable, with 70% being of the view that occupational health services should provide advice and information to employees about alcohol use and health.

7.4.5 Shelter for homeless people and a community pharmacy

Baker et al. (1994) reported a controlled evaluation in Australia of a brief intervention for HIV prevention among intravenous drug users who were not in treatment for their psychoactive substance use. The majority of participants (n=200) were recruited from a homeless shelter (n=69) and a community pharmacy (n=127). They were then randomly assigned, stratified by sex and HIV status, either to receive a 30-minute brief intervention delivered by therapists, one of whom was a nurse, or to a non-intervention control group. Two “clinical probe instruments”, devised by one of the authors, were used to assess participants’ stage of change regarding risk-taking behaviour. Other outcome measures were used to assess substance use and HIV risk-taking behaviour. The intervention provided information on risk and harm

reduction, with the therapists adopting a personalized motivational interviewing style. The interventions were assessed at baseline and at three-month and six-month follow-up. No statistically significant differences were found between the two groups at baseline. At three months, 121 participants (60.5%) were followed up and at six months, 88 (44%). The sample as a whole reduced injecting risk-taking behaviour between baseline and both follow-up points, but no statistically significant differences between the groups were found at the three-month or six-month follow-up. Loss of statistical power may have prevented an effect from being detected at the 5% level of significance. The comprehensive 30-minute assessment of participants before their random assignment may in itself have constituted a brief intervention and could explain the improvements in the sample overall.

7.4.6 Discussion papers

Women's health

In a discussion paper published in a nursing journal in the USA, Becker and Walton-Moss (2001) highlighted the key role of primary care clinicians in screening and brief interventions for hazardous and harmful drinking. They drew attention to issues such as genetic factors and gender-based physiological differences that influence the way the body metabolizes alcohol, and fetal alcohol syndrome. Becker and Walton-Moss recommended that the specific needs of women should be accounted for in interventions, although the authors noted that gender-based treatment programmes had not been found to be any more effective than non-gendered ones. The screening tools that were cited included CAGE, TWEAK and AUDIT, with lower cut-off points for women. Brief interventions were discussed, including the fact that they were not appropriate for people who are alcohol dependent. Although the authors are both nurses, the role of the nurse was not specifically discussed.

Older people

Schofield and Tolson (2001) and Knauer (2003) pointed out that practitioners in primary care often do not screen older people appropriately for hazardous or harmful drinking, with the result that alcohol-related health promotion information is often not provided, and associated problems may not be detected. These authors suggested that the physiological changes that occur with aging inhibit the body's absorption of alcohol, causing older people to develop health problems associated with their alcohol use. Screening was advocated, but the focus of Knauer's paper was alcohol dependence, so brief interventions were not mentioned. On the other hand, Schofield and Tolson (2001) drew attention to the fact that, despite the evidence base for brief interventions with other populations, little attention appeared to have been paid to their delivery by nurses to people over 65 years of age. Boyle and Davis (2006) argued that CAGE was a useful instrument for the assessment of excessive alcohol use in this client group. Finfgeld-Connett (2004) provided a useful description of the

components and delivery of brief interventions for hazardous and harmful alcohol use in older women and discussed obstacles to nurses providing appropriate care for this client group. According to the author, knowledge deficits and ageism might be barriers for older people.

7.4.7 Summary

The above section reviewed studies that were conducted in a range of settings, including high schools, a sexual health clinic, the workplace, a shelter for the homeless and a community pharmacy. Reference was made to discussion papers that were published on the needs of women and older people. Summaries of these publications are presented in Table 6.

A qualitative study conducted in Finland by Pirskanen et al. (2007) highlighted the importance of confidentiality and accessibility of public health nurses to school pupils. Werch et al. (2003) tested a series of strategies to help sixth grade high school students in the USA to avoid drinking alcohol. Although the programme was effective overall, it involved a range of activities and it was not clear whether the brief intervention on its own would have influenced the young people's drinking behaviour (Werch et al. 2003).

The feasibility study of screening and brief intervention for hazardous and/or harmful alcohol use in a sexual health clinic showed promising results, although changes did not reach the level of statistical significance (Lane et al. 2008). However, since this was a feasibility study, data were produced on which to calculate the sample size required for a fully powered study. The study provided further evidence of the potential of technology in screening, which nurses and patients found acceptable.

The other feasibility study reported in the above section was conducted in a workplace, the intervention having been delivered by an occupational health nurse. As with the study reported by Lane et al. (2008), greater reductions in alcohol use were reported by the employees who had received the intervention than the control group, but the differences were not statistically significant. The study conducted by Watson et al. (2009) featured an economic evaluation, which suggested the cost-effectiveness of the intervention. Both of these feasibility studies highlighted the scope of and need for further studies in these under-researched areas.

Baker et al. (1994) reported the only brief intervention for HIV prevention among intravenous drug users that was delivered in a community setting and in which nurses were involved. The participants were recruited from a shelter for the homeless and a community pharmacy. They received a motivational brief intervention from a nurse or a psychologist so as to reduce psychoactive substance use. Positive changes were achieved by members of both the intervention and the control group.

The specific needs of women in relation to substance use were noted by Becker and Walton-Moss (2001). Schofield and Tolson (2001) and Knauer (2003) drew attention to the fact that practitioners often failed to screen older people appropriately for hazardous or harmful use of alcohol. According to Finfgeld-Connett (2004), knowledge deficits and ageism might be barriers to interventions among older people.

8 REPORTS OF NURSES' AND MIDWIVES' PRACTICE OF SCREENING AND DELIVERING BRIEF INTERVENTIONS

8.1 INTRODUCTION

This section reviews studies of nurses' and midwives' actual routine practice in relation to screening and brief interventions, rather than trials in which nurses played a part. The literature is also summarized in Table 7.

A large body of literature was found on the investigation of factors that may act as enablers or barriers to nursing and midwifery practice of screening and delivering brief interventions. Several of these publications also sought to describe practice. However, these are presented in Section 9, with the main focus of papers described here being on actual practice.

8.2 PRIMARY HEALTH CARE

Deehan et al. (1998) conducted a postal survey of 4 467 primary health care nurses in England and Wales to assess their practice regarding alcohol-related issues. The response rate was 43%. Of those who took part, 77% reported seeing at least one patient in the previous four weeks who had been drinking at hazardous or harmful levels. The main methods used by nurses to detect hazardous and harmful drinking were the assessment interview (76.8%) and screening questionnaires (32.5%), but no tools were specified. The main intervention by nurses was the provision of advice and information (81.4%) and health education literature (52.1%). Findings from a separate postal survey published in 2002 indicated that 95% reported screening new patients routinely, 42% screened patients opportunistically if alcohol use was a risk factor, and 13% screened all patients routinely (Deehan et al. 2002).

Owens et al. (2000) conducted a postal survey of 132 primary care nurses in England to determine their level of knowledge and their attitudes towards becoming involved in managing patients with alcohol-related problems and to find out what information they gave to patients about low-risk drinking. A large majority (93%) of the nurses reported taking an alcohol history. Even more (96%) said that they routinely gave advice on sensible drinking but, when this was probed, it seemed that inaccurate information was being given by one-third of the sample about the level

above which drinking generally became hazardous. This is a concern since, if the majority did ask about alcohol use, some of them appeared to have insufficient knowledge to implement appropriate interventions or to make appropriate referrals. As the study was conducted in 1997, the deficits in knowledge may have been addressed in the meantime.

Neushotz and Fitzpatrick (2008) described a qualitative study of screening and brief intervention for psychoactive substance use in a primary health care clinic in New York City in the USA. The sample was small, comprising only six informants from medicine, nursing and social work. They described screening practices for substance use at the clinic over the previous eight-year period. Evidence from clinic records was also examined. The authors reported that physicians and social workers routinely screened, whereas nurses reported a 25% compliance rate. As the study site was a major academic medical centre, it may have been atypical. The credibility and transferability of the findings were limited by lack of detail on how the data were analysed and the issue of recall bias.

8.3 OBSTETRIC/MATERNITY CARE

In 2004, Kerker et al. conducted a retrospective study in the USA to assess the relationship between the characteristics of patients and health care providers in decisions about whether or not to screen pregnant and postpartum women for psychoactive substance use. The medical records of 1 100 low-income women from a range of ethnic backgrounds who had given birth in an urban teaching hospital were examined, and data were extracted in order to obtain key demographic information. The health care providers (n=40) included five nurse-midwives who were employed at the hospital during the period when the women had been patients. Data were collected using a structured interview comprising validated instruments, including a Professionalism Scale. The aim was to assess the attitudes of the health care providers to providing care. Of the patients, 9.4% were alcohol users, and 7.6% were other substance users (excluding smokers, who constituted 33.8% of the sample). Of the women, 4.2% were cocaine users. Regression analyses were conducted to test associations between health care providers' attitudes and patients' characteristics. The authors found that women who were single and black, and had a placental abruption, preterm labour, inadequate prenatal care, a high social/mental health risk score and a past history of illicit substance or tobacco use, were more likely to be screened than those without these characteristics. It was concluded that a universal screening policy, rather than one based on client characteristics and providers' professionalism, was required.

Herzig et al. (2006) reported a qualitative study that was undertaken in San Francisco in the USA to explore how health professionals identify and provide counselling interventions with pregnant women to reduce psychoactive substance

use and the risk of domestic violence. The focus of the paper was domestic violence; substance use was a secondary concern. Six focus group sessions were conducted. The participants of five of the focus groups comprised obstetricians/gynaecologists, and one comprised nurse practitioners and certified nurse midwives. The findings suggested that the participants regarded it important to screen for substance use but did so informally. No mention was made of any particular tools, and a range of interventions were described. In terms of intervention, the participants used many of the elements of brief motivational interventions but did not specifically use the latter term.

Chang et al. (2008) reported a qualitative study of the extent and quality of assessment and communication between health practitioners (including midwives and nurses) and pregnant women during their first antenatal consultation at an obstetric/gynaecology clinic in Pittsburgh, USA. In total, 29 health care providers, five of whom were midwives, and 51 pregnant women gave consent to have their first consultations audio-recorded. Of the 51 women, 27 disclosed substance use. Most of them were smokers and 11 women reported using illicit substances. A grounded theory analysis of the transcripts of the 51 consultations revealed that while tobacco use was routinely assessed and cessation encouraged, the practitioners were less likely to engage in direct discussion with clients on their use of alcohol or other substances. They were more likely to refer clients to a genetic counsellor. The authors acknowledged the limitations of the study, including its small sample size and its restriction to a single study site, and its exclusion of other staff, such as social workers, who may have had more detailed discussions with the women about their psychoactive substance use.

Davis and Carr (2008) also reported a survey designed to assess the practices of family physicians and nurse practitioners regarding assessment of alcohol use by pregnant women and women of childbearing age. All 809 family physicians and 67 nurse practitioners in Saskatchewan in Canada were invited to participate in a postal survey seeking information on current practices and the screening tools they used. Of the 386 completed questionnaires returned (44.1%), 36.2% were responses from the family physicians and 61.2% from the nurse practitioners. Almost all (95.1%) of the nurse practitioners reported that they “always” or “sometimes” asked pregnant women about their alcohol use. However, 61.2% said that they “rarely” or “never” used a standardized screening tool. The CAGE was the assessment tool of choice for most of the nurse practitioners who did use a tool.

Leggate (2008) described a midwifery service designed to support vulnerable women during pregnancy in a Scottish urban setting. This Vulnerable in Pregnancy (VIP) service was initiated to assist communication between professionals and families where substance use was an issue. As part of the service, midwives contributed to

assessment of and care planning for substance users and also participated as effective advocates for substance users and their families. However, no mention was made of brief interventions specifically. Leggate (2008) contended that these specialist midwives were perceived positively by substance-using clients and that the clients tended to remain in treatment and attended most of their appointments.

8.4 CHILD CARE

In a paediatric clinic in the USA, Ozer et al. (2004) examined the extent to which physicians and nurses felt confident and effective about screening adolescent patients for a range of health behaviours, including the use of alcohol. Sixty-six paediatric health professionals (paediatricians and nurses) completed questionnaires to assess their perceived levels of self-efficacy in screening adolescents for several lifestyle-related health behaviours, and their reports of actual screening over the previous month. A sample of 323 patients, aged 14 to 16 years, also completed reports immediately following the visit on whether the clinicians had carried out screening. The nurses and paediatricians self-rated moderately high self-efficacy in screening for alcohol use. However, only a weak positive association was found between their self-efficacy to deliver prevention interventions for alcohol use and the adolescents' reports of screening ($r=0.23$, $p=0.06$). This was considerably weaker than associations with interventions for tobacco use or other health behaviours. The authors concluded that education in screening and prevention approaches was essential to enhance the practitioners' competence.

Petersen (2008) argued that, in accordance with UK policy on child protection, every professional in contact with young people ought to be able to identify and advise young people about alcohol and other psychoactive substance use problems. Amongst others, nurses who work in primary health care were in an ideal place to make early interventions with young people in order to stop them progressing to more harmful or hazardous use. Petersen advocated the need for adequate screening and assessment, and suggested that practitioners should develop knowledge about local drug and alcohol services so as to refer patients there if appropriate. In addition, she suggested that training to develop appropriate knowledge and skills and also to conduct brief interventions was required.

8.5 SUMMARY

Two surveys of the self-reported practice of primary health care nurses in the UK found that, although the nurses reported that they had assessed patients' alcohol use, they did not generally use a validated screening tool (Deehan et al. 1998, Owens et al. 2000). They stated that they gave advice and information to patients whom they considered to be engaging in hazardous or harmful drinking but, according to Owens et al. (2000), the information may have been based on

inadequate knowledge. As a consequence, patients may have received interventions unnecessarily or opportunities to intervene may have been missed. Similar conclusions were drawn by Neushotz and Fitzpatrick (2008), reporting findings from their small-scale study in the USA.

According to Anderson et al. (2001), only a few emergency departments implemented screening routinely. Findings from their survey of all of the emergency departments in Scotland revealed that brief interventions for hazardous or harmful drinking were not implemented despite the prevalence of alcohol-related attendances in units such as these. However, as suggested in Section 6, emergency departments may not be the best environment in which to deliver interventions of this nature; the outpatient clinic or hospital ward may be more appropriate. Patients who have gone through the initial admission processes may have had time for reflection on their health status and may be more receptive to health messages. However, a relatively small proportion of the nurses in the study reported by Lappalainen-Lehto et al. (2005) identified patients who engaged in hazardous or harmful substance use, a finding that was endorsed by Griffiths et al. (2007).

Three of the six studies reviewed in this section addressed the use of psychoactive substances in addition to alcohol (Neushotz & Fitzpatrick 2008, Lappalainen-Lehto et al. 2005).

In contrast to the few studies on the use of psychoactive substances other than alcohol in primary health care and hospital settings, most of the reports on the practice of obstetric nurses and midwives dealt with screening and interventions for women in relation to a range of substances. Only one study referred exclusively to alcohol use (Davis & Carr 2008).

Several of the issues appear to have been common to both nurses and midwives in that midwives also recognised the importance of assessing pregnant women for substance use but commonly did so without using a screening tool (Herzig et al. 2006, Davis & Carr 2008). This was also the case for nurse-practitioners who worked with adolescents (Ozer et al. 2004). Particular sociodemographic and socioeconomic characteristics appear to have had a negative impact on whether women were screened for substance use (Kerker 2004). However, this was a small study that was conducted within one area only, so it would be inappropriate to extrapolate these findings to midwifery practice in general.

Discussions in these papers about the nature of nurses' and midwives' work in relation to brief interventions were limited to the provision of advice and information and health education literature, with very little detail about what that entailed, other than when referral was made to the patient's GP (Anderson et al. 2001). The findings of this review support the conclusions of the literature review published by Roche and

Freeman (2004) that, despite the evidence in support of the effectiveness of brief interventions, their uptake in practice has been slow.

The prevailing theme of most of these studies was that, while there was evidence that some nurses and midwives were working towards the secondary prevention of psychoactive substance-related problems by screening patients, there was less evidence that brief interventions were routinely implemented. There was little evidence regarding nurses' or midwives' practice in relation to screening and delivering brief interventions for psychoactive substance use other than alcohol. Table 7 offers a summary of the studies.

Factors that influence practice are examined in the next section (Section 9). However, since a literature review is necessarily limited to commenting on published reports, it is not possible to know the extent to which the review reflects reality.

9 FACILITATORS AND BARRIERS TO NURSES' AND MIDWIVES' INVOLVEMENT IN SCREENING AND BRIEF INTERVENTIONS

9.1 INTRODUCTION

The literature reviewed in the previous section provided evidence that nurses and midwives often questioned patients about alcohol use but seldom used validated tools to screen for hazardous or harmful drinking. Only a few publications described nurses' or midwives' involvement in screening for use of psychoactive substances other than alcohol. There were also few accounts of brief interventions by nurses or midwives for psychoactive substance use in any clinical setting.

The literature search identified a substantial number of additional studies that investigated factors that facilitate or inhibit nurses' and midwives' engagement in screening and brief interventions, and 24 such studies were reviewed for this report. Findings from these studies were very similar. Given the large number of studies and their similarities, rather than present a lengthy review here, details of each study are given in Tables 8 to 11. The discussion of the literature below is an overview. This is followed by a review of studies on the effectiveness of education and training.

9.2 FACILITATORS AND BARRIERS

As shown in Table 10, most of the studies indicated that nurses considered it a legitimate part of their role to ask patients about alcohol use, and many acknowledged that they should also give information and advice about reducing hazardous and harmful drinking. While agreeing that this was important, the nurses in the study conducted by Geirsson et al. (2005) ascribed less importance to interventions to reduce alcohol-related harm than to efforts to address other lifestyle behaviours, such as tobacco use and obesity. Similar findings were reported by

Willaing and Ladelund (2005), who found that many surgical nurses did not see alcohol prevention work as part of their role, despite being clear about the relationship between alcohol use and the diagnoses of many patients in their care. These latter views were, however, in the minority.

9.2.1 Knowledge

The recurring theme in this literature review was lack of knowledge, with the majority of studies showing that nurses themselves reported shortfalls in their knowledge which prevented them from screening and/or delivering effective interventions. Low levels of knowledge are associated with lack of confidence (Shaw et al. 1978). This was evidenced by Geirsson et al. (2005), who found a positive relationship between the amount of alcohol-related education nurses had received and positive attitudes towards engaging with hazardous and harmful drinking. The more education the nurses had received the greater their use of screening. One reason given by many of the nurses in several of the studies for being reluctant to raise the issue of alcohol use with patients was that they were anxious about the potential response, anticipating a negative reaction that would affect the interpersonal relationship that had been built up (Aalto et al. 2001, Lock et al. 2002, Johansson et al. 2005, Holmqvist et al. 2007). Alcohol is a sensitive topic which has long been associated with social stigma (Room 2005). Any education on screening and brief intervention should therefore include a component on raising the topic with patients and the use of a motivational style that fosters mutual respect and diminishes a sense of confrontation.

The provision of education was advocated by all authors of studies aimed at examining facilitating factors. The only author who did not comment on education or training focused specifically on current practice (Sinclair et al. 2003). Several authors suggested that education should comprise information on the evidence base for brief interventions, the content of a brief intervention, and skills training in relation to screening patients and delivering interventions (Aalto et al. 2001, Anderson et al. 2001, Deehan et al. 2002, Lock et al. 2002, Johansson 2002, Geirsson et al. 2005).

Reports of studies that tested such educational initiatives are presented in Section 9.2.3.

In an overview of systematic reviews on the delivery of cost-effective interventions in primary health care, Lewin et al. (2008) reported that implementation strategies that included the dissemination of guidelines, audit and feedback, and educational initiatives resulted in improvements in the practice of health professionals. He commented that this evidence was largely based on work undertaken in high-income countries, but suggested that, on the basis of personal communication with experts

from low-income and middle-income countries, the findings could be generalized across the world.

9.2.2 The organizational framework

Perceived barriers within the organizational framework in which nurses practise included lack of time, the environment in which they practise, and support from colleagues and other services.

Time constraints were a barrier for many nurses, and particularly those working in hospitals. The shorter stay of patients in hospital in recent years reduced the opportunities for nurses to intervene, and intervention was inappropriate while the patient was acutely ill. In addition, competing clinical demands on nurses' time, together with low levels of confidence, may have prevented nurses from being more active in screening and delivering brief interventions for hazardous and harmful substance use. In the studies that were reviewed for this report, the interventions were carried out by research staff, and not nurses who were part of the normal staffing complement for the clinical area.

Those responsible for workforce planning and budgeting need to consider the cost-effectiveness of brief interventions in terms of reduced hospital readmissions when allocating resources and nursing time to implement brief interventions. If resources cannot be deployed to promote the implementation of brief interventions in routine practice, it may be more appropriate for interventions to be delivered during outpatient appointments, following discharge from inpatient care, as was the case in studies of successful brief interventions reported by Smith et al. (2003) and Goodall et al. (2008). However, in order to identify the need for a brief intervention, screening ought to take place during a patient's stay in hospital, for example as part of the initial routine health assessment at the time of or soon after admission. Lack of privacy was also cited as a barrier, and again only in those studies that involved hospital nurses. This is a further reason for delivering brief interventions at outpatient clinics or primary health care centres, which more commonly have consultation rooms in which confidential conversations can be held.

Lack of support from senior clinical and management colleagues for the implementation of brief interventions was shown to have a negative impact (Brooker et al. 1999). On the other hand, Gorman et al. (1990) and McManus et al. (2003) demonstrated clear benefits of active support and encouragement from senior staff. There was a growing awareness of the consultative support and advice that specialists could give to nurses working in primary health care and hospital services (McManus et al. 2003). Furthermore, clinical supervision could provide the opportunity and space for nurses and midwives to reflect on and develop their

practice, particularly in respect of issues such as negative reactions from patients (Butterworth & Woods 1999).

Many of the studies reviewed in this section addressed issues that are central to the theory of therapeutic commitment described by Shaw et al. (1978). Shaw et al. (1978) maintained that practitioners' attitudes and commitment are influenced by role legitimacy, role adequacy and role support. The term "role legitimacy" is used to describe the extent to which people regard particular aspects of their work as being their responsibility. "Role adequacy" refers to the fact that practitioners who feel adequately prepared for a role view themselves as having appropriate knowledge and skills. "Role support" relates to the support that practitioners acknowledge receiving from colleagues to perform their role effectively. Shaw et al. (1978) suggested that the presence of these factors enhances motivation to address hazardous or harmful alcohol use, expectations of satisfaction and professional self-esteem when engaging with alcohol users in therapeutic activity.

9.2.3 Educational initiatives

Several studies evaluated the effect of training on the knowledge and skills of nurses and other health practitioners in alcohol screening and brief interventions. Interpretation of the findings is problematic, though, since very different evaluation methods were used and the personal characteristics of the trainer could have had a marked influence on the results. This can be gleaned from Andreasson et al.'s (2000) finding that training that lasted less than one hour and was delivered on a one-to-one basis in the nurses' own workplace appeared to have little impact on practice, compared to Kaner et al.'s (2003) finding that training of a similar duration and delivered in a similar setting had impressive results. According to a recent study (Peltzer et al. 2008), nurses who attended a two-day course carried out over 80% of all brief interventions delivered by nursing staff in 18 primary health care clinics in South Africa. Training that involved active learning strategies, such as group work, role playing and watching videotaped demonstrations of screening and brief interventions resulted in significant improvements in role legitimacy and role adequacy (Ockene et al. 1997). In general, therefore, training seemed to have a positive impact on nurses' attitudes and practice in relation to alcohol screening and brief interventions.

9.3 SUMMARY

It is clear that lack of confidence, knowledge deficits and negative attitudes are key inhibitors of nurses' involvement in screening and brief interventions in this field. These factors were also confirmed by the systematic literature reviews of Roche and Freeman (2004), Hyman (2006) and Nilsen et al. (2006).

There is considerable evidence that appropriate education can improve nurses' knowledge and attitudes so that they are more ready and able to accept and work with psychoactive substance users (Arthur & Wong 2000, Munro et al. 2007). Most of the studies on training discussed in this literature review suggested that educational interventions can have a positive impact on nurses' knowledge of, skills in and attitudes to alcohol screening and brief interventions, although definitive evidence of the optimum duration and format of such initiatives was not available.

Although the literature sources on factors that influence nurses' involvement in screening and brief interventions were abundant, there were few literature sources on factors that impinge on midwifery practice. There was also a dearth of evidence on issues that promote or impede the practices of nurses and midwives regarding the hazardous and harmful use of all other psychoactive substances.

10 BEST PRACTICES IN SUPPORTING SCREENING AND BRIEF INTERVENTIONS

10.1 INTRODUCTION

In the previous sections, the evidence for nurses' and midwives' involvement in screening and delivering brief interventions for hazardous and/or harmful use of alcohol and other psychoactive substances was reviewed. Given that screening and brief interventions are an important public health function for nurses and midwives, one of the aims of this study was to document best practices in the involvement of nurses and midwives in these activities.

A number of clinical guidelines on the content and delivery of brief interventions have been produced by government departments since the WHO published a manual on brief interventions for hazardous and harmful drinking in primary care (Babor & Higgins-Biddle 2001). The description below of screening and brief interventions is based on a synthesis of information from Babor and Higgins-Biddle (2001), Henry-Edwards et al. (2003), NIAAA (2005a and b), SHAAP (2008) and NHMRC (2009).

Educational and organizational issues are also discussed.

10.2 BRIEF INTERVENTIONS

As indicated in Section 4, the WHO (1994) defines a brief intervention as:

“a treatment strategy in which structured therapy of short duration (typically 5-30 minutes) offered with the aim of assisting an individual to cease or reduce the use of a psychoactive substance or (less commonly) to deal with other life issues. It is designed in particular for general practitioners and other primary health care workers.”

As previously stated, a brief intervention has two stages. The first stage comprises screening to identify psychoactive substance use. The second stage is based on the information derived from screening and involves a time-limited discussion between the nurse or midwife and the patient to motivate the patient to reflect on his or her use of alcohol and/or other psychoactive substances.

Based on the principles of motivational enhancement, brief interventions generally incorporate the six elements of the FRAMES model (Miller & Rollnick 2002), namely feedback, responsibility, advice, motivation, empathy and self-efficacy. Accordingly, during screening and the intervention the nurse or midwife should:

- ensure the client's/patient's confidentiality;
- adopt an empathetic interviewing style that enhances the client's/patient's self-confidence to change;
- acknowledge that people choose to use psychoactive substances in a range of ways that are contextualized and mediated by a variety of social factors;
- build the client's/patient's self-efficacy; and
- avoid “labelling”.

10.2.1 Screening

Accurate screening is critical to the success of the intervention. To this effect a validated tool, such as the AUDIT or FAST, should be used. TWEAK and T-ACE are recommended for use in antenatal care. Henry-Edwards et al. (2003) advocate the use of the ASSIST to screen for hazardous or harmful use of other psychoactive substance use.

Screening can be undertaken during a general health and lifestyle assessment (Babor et al. 2001). This places psychoactive substance use within a lifestyle context along with other health behaviours such as tobacco use and diet, and may reduce the potential negativity that some nurses anticipate, as highlighted in Section 9 of this review. It is important to adopt a motivational and non-confrontational approach that enhances self-efficacy and control (Miller & Rollnick 2002, Littlejohn & Holloway 2008).

In addition to assessing psychoactive substance use, the nurse or midwife should assess the client's/patient's motivation and readiness to change and match the intervention to the client's/patient's stage in the cycle of change, as this will have an impact on the nature of the ensuing discussion. The Readiness Ruler is an analogue scale that can help to determine a client's/patient's perception of the importance for them to change their psychoactive substance use (Miller & Rollnick 2002, Henry-Edwards et al. 2003).

A score of 0 to 3 on the ruler indicates that the client/patient ascribes low importance to suggestions about making changes to the level of current substance use and is in the "pre-contemplation" stage. People in this stage are unlikely to respond to advice but the active process of screening may cause them to reflect on the effect of psychoactive substance use on them. However, they should be invited to come back for further discussion if they change their mind, as this may provide an opportunity for them to move from pre-contemplation to contemplation. Using an empathetic and non-judgmental approach is particularly important at this stage so that the client/patient will not be discouraged from returning.

10.2.2 The discussion element of a brief intervention

Depending on the client's/patient's motivation and readiness to change, the nurse or midwife may engage in any or all of the following activities:

- Provide feedback that helps the individual to see links between their psychoactive substance use and any identified health or social problems.
- Show the individual how to draw up a decisional "balance sheet" of what, for them, are positive and negative effects of psychoactive substance use.
- Provide information on the benefits of decreasing substance use, what constitutes lower-risk use, and risks associated with increasing levels of use.
- Increase the individual's belief and confidence in their ability to change their substance use behaviours (self-efficacy).
- Assist the individual to set goals within a personal development plan that aims to reduce use.
- Encourage the individual to identify risky situations and help them to develop strategies that will enable them to stop or cut down substance use, and/or maintain any positive changes they have made.
- Provide supplementary reading materials, including pamphlets and/or workbooks.
- Offer an opportunity for follow-up.

(Henry-Edwards et al. 2003, SHAAP 2008, NIAAA 2005a and b)

10.3 STRATEGIES TO PROMOTE THE UPTAKE OF SCREENING AND BRIEF INTERVENTIONS

The findings of this review confirmed claims that, despite the evidence that supports the effectiveness of brief interventions, they have yet to be routinely implemented (Roche & Freeman 2004, Hyman 2006, SHAAP 2008). A number of barriers were identified. These included lack of knowledge, concerns about offending clients/patients, and scepticism about the effectiveness of screening and brief interventions. Organizational issues identified by nurses and midwives included lack of support, access to specialist services and time.

10.3.1 Education

A range of education and training opportunities should be available. Curricula that prepare nurses and midwives for entry to their professions should include content that addresses primary, secondary and tertiary prevention of psychoactive substance use. This should include information on the underpinning theories of the stages of change model and the enhancement of motivation. There should also be practical training in the use of alcohol screening questionnaires and brief interventions, including the use of vignettes and role play.

Courses that address these issues should also be provided for qualified nurses and midwives, and regular updates and refresher courses should be available.

10.3.2 Organizational issues

Staff at all levels in health care organizations should be aware of the cost-effectiveness of screening and brief interventions, and time should be set aside and materials, such as manuals and protocols, should be made available for such activities. Health care managers should ensure that screening is incorporated into routine health assessment interviews and that nurses and midwives are supported to deliver brief interventions. In addition, information about specialist services for people with psychoactive substance use-related problems should be readily available to all nurses and midwives, irrespective of the setting in which they work.

11 CONCLUSIONS

As discussed in Section 3, nurses and midwives have a key public health role and, as the members of the health care team who form by far the largest part of the workforce (WHO 2006), can make a significant impact on the prevalence of hazardous and harmful use of psychoactive substances by engaging in screening and brief interventions.

The key findings that have arisen from this literature review are:

- There is convincing evidence of the efficacy of brief interventions in primary health care and hospital settings.
- The location and timing for the interventions are important.
- Evidence for the effectiveness of nurses and midwives in delivering brief interventions is less robust but quality evidence is increasing.
- Many nurses recognize that screening and brief interventions for hazardous or harmful use of alcohol are a legitimate part of their role.
- Nurses generally lack confidence in assuming this prevention role.
- Nurses generally have insufficient knowledge to support accurate screening and brief interventions.
- Education and training on screening and brief interventions can enhance nurses' practice of these activities.

The review has also highlighted the following:

- Evidence on the most effective format and duration of training for nurses in screening and brief interventions is equivocal.
- There is less evidence that midwives are involved in these activities.
- Less attention has been paid in the literature to factors that influence the involvement of midwives in brief interventions, such as their attitudes, knowledge and skills.
- There is a dearth of evidence on the involvement of nurses and midwives in screening and brief interventions for hazardous and/or harmful use of substances other than alcohol.
- No publications in English on this topic were found in countries other than Australia, Canada, Denmark, Finland, Hong Kong, South Africa, Sweden, Taiwan, the UK and the USA.

12 RECOMMENDATIONS

Recommendations are made for policy, research, education and practice so as to ensure a cohesive framework for enhancing the integration of this public health measure with routine practice.

12.1 POLICY

A systems approach to workforce development has resulted in a scaling up of the implementation of screening and brief interventions in several countries, including Australia, Sweden, the UK and the USA. Such an approach should be encouraged by governments and nursing leaders in countries where there is less activity to promote this role for nurses and midwives.

In order to enhance the involvement of nurses and midwives in screening and brief interventions, policy should ensure that:

- a financial investment is made in nursing and midwifery involvement in screening and brief interventions;
- regulatory bodies for nursing and midwifery are required to ensure that hazardous and harmful use of alcohol and other psychoactive substances is addressed in undergraduate and postgraduate nursing and midwifery curricula;
- national leaders are appointed to champion screening and brief interventions and to change the attitudes of nurses and midwives and inform and inspire them;
- service quality standards for screening and brief interventions are developed;
- nationally agreed standards are set for training in screening and brief interventions;
- national and local initiatives to support training in screening and brief interventions are well coordinated;
- appropriate resources are developed and disseminated, such as computerized screening and automated systems that prompt nurses and midwives to deliver brief interventions as a result of positive screening, and manuals on screening and brief interventions;
- opportunities for clinical supervision are provided so that nurses and midwives can reflect on and develop their practice;
- evaluations of the impact of each of the above are made in order to learn from successes and less fruitful activities; and
- research findings, published in languages other than English, on the involvement of nurses and midwives in screening and brief interventions are disseminated.

12.2 RESEARCH

Based on the findings of this literature review, it is recommended that future research address the following:

- The best format and optimum duration of training for nurses and midwives in screening and brief interventions.
- The effectiveness of screening and brief interventions for hazardous and harmful use of alcohol and other psychoactive substances in pregnant women by midwives.
- The factors that influence the involvement of midwives in brief interventions, such as their attitudes, knowledge and skills.
- The effectiveness of screening and brief interventions for the use of psychoactive substances other than alcohol by nurses and midwives.
- Investigation of screening and brief interventions by nurses and midwives in countries not covered in this review.

12.3 EDUCATION AND TRAINING

Education and training for nurses and midwives should ensure that:

- alcohol and other psychoactive substance use is addressed in undergraduate and postgraduate nursing and midwifery curricula;
- the content of courses designed to promote screening and brief interventions meets nationally agreed standards for training, where available;
- information is provided on the underpinning theories including the stages of behaviour change model (Prochaska et al. 1993), motivation enhancement (Miller & Rollnick 2002), social learning and social cognitive theories, and self-efficacy (Bandura 1986);
- these theories are applied to scenarios such as:
 - adopting an empathetic interviewing style that enhances self-confidence to change,
 - raising the issue of substance use,
 - assessing motivation and readiness to change,
 - coping with denial,
 - matching the intervention to the client's/patient's stage in the cycle of change,
 - negotiating goals, and
 - enhancing self-efficacy;
- practical training in using alcohol screening questionnaires is included;

- training in brief interventions incorporates practical exercises such as role play; and
- regular updates and refresher courses to reinforce acquired skills are provided.

12.4 PRACTICE

Recommendations for nurses and midwives in practice include that they should:

- understand the extent of the problem;
- acknowledge the importance of screening and brief interventions for hazardous and harmful use of alcohol and other psychoactive substances;
- ensure that, where available, standards for screening and brief interventions are implemented;
- incorporate screening with routine clinical practice when assessing new patients, and during periodic reviews;
- utilize available resources, such as validated screening tools and manuals on screening and brief interventions, amended as necessary for a range of clinical settings;
- access relevant education and skills training courses, and attend available updates and refresher courses to reinforce skills acquired during initial training; and
- reflect on practice.

GLOSSARY OF TERMS

The Definitions related to alcohol and psychoactive substances can be found on the World Health Organization's website:

http://www.who.int/substance_abuse/terminology/who_lexicon/en/index.html.

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Table 1: Screening

Authors, date	Country	Method and aim	Substance	Sample or setting	Screening tool/s	Nurse's/midwife's role	Findings and/or recommendations
Caulker-Burnett (1994)	USA	Review paper to provide information on addiction and screening for substance use.	Alcohol	Primary health care	CAGE	The author was a nurse and the content dealt with nurses' role in screening.	Recommended the CAGE, with statements on use of psychoactive substances included.
Raglaisis (2004)	USA	Review paper to highlight the nurse's role in screening for hazardous and harmful alcohol use.	Alcohol	Patients in secondary care	CAGE, MAST, TWEAK, AUDIT and the Rapid Alcohol Problems Screen (RAPS)	The content dealt with nurses and screening.	CAGE had the best sensitivity and specificity screens for long-term harmful alcohol use, whereas the AUDIT was superior for both hazardous and harmful drinking.
McPherson & Hersch (2000)	USA	Literature review.	Alcohol and other substances	Clients in primary care	CAGE, MAST, SMAST, MAC, MMPI, MMPI-2, AUDIT, MCMI, MCMI-III, ASI, APS, AAS, DAST, DUSI, IAS, CIDI-SAM, AAF, CAF, HEADSS, HEADS FIRST, POSIT	Nurses were seen as practitioners who should screen clients for substance use.	Reviewed several tools and highlighted AUDIT as a tool for early detection of hazardous or harmful drinking in primary care. No valid tool existed that could be easily used in primary care for screening for other substances.
Armstrong and Holmes (2005)	USA	To provide education about screening using the RAPS and assess the frequency of screening.	Alcohol and other substances	Family nurse practitioners at an academic nursing centre	RAPS	The nurses received 20 minutes of training in using the RAPS. All screening practices were assessed for a month after the training.	Nurses screened for substance use in 6.7% of the time and asked 27% of patients about substance use. The RAPS tool had not been used routinely.
Leung et al. (2007)	China	Cross-sectional study to assess the effectiveness of a computerized health assessment kiosk to perform mental health assessment.	Alcohol	Patients attending a nurse-led health clinic affiliated to a university in Hong Kong	A computerized mental health assessment	The researchers were nurses.	The kiosk was easy to use. Several patients found it hard to understand the calculation of alcohol content of one standard drink.
Fletcher (2004)	UK	Discussion paper.	Alcohol	ED attendees	PAT FAST		Using the FAST questionnaire in EDs was advocated.

Table 1: Screening (continued)

Authors, date	Country	Method and aim	Substance	Sample or setting	Screening tool/s	Nurse's/midwife's role	Findings and/or recommendations
Seale et al. (2008)	USA	Correlation study to assess feasibility of using the SASQ in routine "nursing vital signs" and its effect on alcohol screening and intervention.	Alcohol	Nurses working in rural primary care.	SASQ	Nurses received training in screening and advised patients about the benefits of brief interventions.	Rates of screening and brief interventions rose following the introduction of the SASQ. Note: The term "nursing vital signs" was not explained.
Bendtsen et al. (2007)	Sweden	Pre-test post-test study to assess nurses' attitudes to opportunistic screening using a computerized brief intervention.	Alcohol	Nursing staff in an ED	Computerized AUDIT-C	Nurses gave personalized feedback using the computer printout.	Evaluation after one year of the computerized BI: only 10% of nurses reported any negative reactions from patients; >50% of nurses found it easy to ask patients to take part in the screening, and over 75% of nurses felt that it did not affect their workload.
Shu-I et al. (2008)	Taiwan	Analysis of the sensitivity and specificity of several screening tools.	Alcohol	Administered to patients in medical and surgical wards	AUDIT, AUDIT-C, AUDIT-4, AUDIT-3, TWEAK, SMAST and CAGE	The screening tools were administered by means of interviews by nurses.	All tools showed acceptable sensitivities (ranging from 85 to 93%) and specificities (ranging from 72 to 92%), but AUDIT and its short forms performed consistently better than the other instruments. Both the ten-item and shortened versions of AUDIT could be used by nurses when given appropriate training.
Bad Heart Bull et al. (1999)	USA	Interviews on and review of medical records to validate the SAQ for use with pregnant native American women.	Alcohol	Obstetric/ maternity care; native American women	The self-administered questionnaire (SAQ), which was developed from the T-ACE	Researcher and participants were nurses.	The authors concluded that the tool was valid for the stated purpose, but the methods used provided insufficient grounds for such a claim.
Hulsey (2005)	USA	Discussion paper.	Alcohol and other substances	Pregnant women who attended drugs courts	N/A	Highlighted the nurse's responsibility to advocate for patients' rights.	Raised ethical and legal issues. Consent should be sought before screening and questionnaires should be used to assess risk (no specific tool was suggested).

Table 1: Screening (continued)

Authors, date	Country	Method and aim	Substance	Sample or setting	Screening tool/s	Nurse's/midwife's role	Findings and/or recommendations
Foley (2002)	USA	Review paper.	Psychoactive substances	Pregnant women	N/A	Nurses had responsibility for care of mother and fetus and a role in referring to drug treatment and social services.	Screening women without consent risked breaching the relationship between health care provider and patient. Nurses should help women to accept appropriate treatment.
Bragg et al. (1997)	USA	Discussion paper on substance use in pregnancy in adolescence.	Alcohol and other substances	Substance-using pregnant adolescents	AAIS ADI MCDAAP	Role in screening highlighted but no mention made of brief intervention.	Nurses should screen adolescents who are pregnant and refer them for counselling if substance use is identified.
Richardson (1999)	USA	To review the literature on adolescent pregnancy.	Alcohol and other substances	None specifically mentioned	None specifically mentioned	Health promotion.	Nurses in contact with this client group were in an ideal position to identify indications of substance use and initiate interventions.
Watson (1999a)	UK	Psychometric analysis to assess the reliability and validity of an alcohol problems questionnaire.	Alcohol	Patients in medical, surgical and orthopaedic wards	An alcohol problems questionnaire, the AUDIT and diary of the previous week's alcohol use	The patients were screened by a nurse.	Concurrent validity ($r=0.80$, $p<0.001$) demonstrated.
Leung & Arthur (2000)	Hong Kong	Psychometric analysis of the content validity, test re-test reliability and construct validity of AUDIT in a Chinese context.	Alcohol	450 patients in primary health care and hospital	AUDIT + 8 questions to enhance cultural sensitivity	The researchers were nurses.	The 18-item AUDIT was found to be a reliable and valid instrument in the context of the Chinese culture. Very high test reliability ($r=0.99$; internal consistency reliability (Cronbach's $\alpha=0.96$); construct validity supported by factor analysis; content validity judged adequate by a panel of five international and local experts.
Holloway & Watson (2000)	UK	To establish the concurrent validity of AUDIT for use in hospitals in the UK.	Alcohol	Patients in hospital	AUDIT SADD	The researchers were nurses.	Good concurrent validity demonstrated ($r=0.87$ and 0.76).

Table 2: Brief interventions in primary health care

Authors, date	Country	Method and aim	Substance	Sample or setting	Outcome measures, including screening tool	Intervention/s and/or nurse/midwife's role in the study	Findings
Israel et al. (1996)	Canada	An RCT to test the effectiveness of screening and brief intervention by a nurse.	Alcohol	Patients in primary health care	<i>Screening:</i> Four alcohol-neutral trauma questions. <i>Outcome measures:</i> Self-reported alcohol use; psychosocial problems; experience of trauma; use of primary health care services; GGT.	<i>Intervention group:</i> A three-hour cognitive behavioural counselling session delivered by a nurse. <i>Control group:</i> Simple advice.	After one year, the intervention group patients showed significant reductions in reported alcohol use, psychosocial problems and GGT. Control group members used significantly more primary care services.
McIntosh et al. (1997)	Canada	An RCT to compare brief interventions by a nurse and a doctor in a family practice.	Alcohol	Family practice clinic in a small urban community	<i>Screening:</i> CAGE. <i>Outcome measures:</i> Self-reported alcohol use over previous 28 days.	<i>Intervention group 1:</i> Two 30-minute sessions with a physician. <i>Intervention group 2:</i> Two 30-minute sessions with a nurse practitioner. <i>Control group:</i> Brief physician advice (five minutes).	The interventions delivered by the nurse were found to be as effective as those delivered by the doctor and no differences were found between the treatment groups at three-, six- and 12-month follow-up. No significant difference was found between the groups but the sample as a whole reduced alcohol use.
Tomson et al. (1998)	Sweden	An RCT to evaluate the effect of brief intervention by a nurse.	Alcohol	Inhabitants of the catchment area of a primary health care centre.	<i>Screening:</i> CAGE; GGT. <i>Outcome measures:</i> GGT; self-reported alcohol use; sickness allowance; use of health care.	<i>Intervention group:</i> Up to three consultations with a nurse on general lifestyle issues and alcohol use in particular, using elements of the FRAMES model. <i>Control group:</i> Usual care.	After two years statistically lower GGT levels and significant reductions in alcohol use were reported by those in the treatment group.

Table 2: Brief interventions in primary health care (continued)

Authors, date	Country	Method and aim	Substance	Sample or setting	Outcome measures, including screening tool	Intervention/s and/or nurse/midwife's role in the study	Findings
Ockene et al. (1999)	USA	An RCT to compare the efficacy of brief intervention in routine primary care by a physician and by a nurse.	Alcohol	Patients in primary health care	<i>Screening:</i> The Health Habits Survey, which includes two CAGE questions, and a standardized Lifestyle Interview. <i>Outcome measures:</i> Self-reported alcohol use.	Eight nurses and 38 physicians were involved. <i>Intervention group:</i> A five-minute to ten-minute patient-centred brief intervention. <i>Control group:</i> Usual care.	Screening and brief intervention by physicians and nurses helped high-risk drinkers achieve significant reductions in alcohol consumption. Reiff-Hekking et al. (2004) reported that those in the intervention group maintained a statistically significant reduction in alcohol use compared to the controls at one-year follow-up.
Fleming et al. (2002)	USA	RCT and economic evaluation to assess the long-term efficacy and benefits/costs of brief intervention in community-based primary care practices.	Alcohol	Patients who attended primary health care practices/clinics.	<i>Screening:</i> Self-reported alcohol use; motor vehicle and legal events; injuries; use of primary and secondary health care; health status; medication; tobacco and illicit drug use.	<i>Intervention group:</i> Two 15-minute scripted sessions delivered one month apart by physicians with tasks for patients to complete at home. The nurses' involvement was confined to two five-minute follow-up telephone calls to reinforce the physicians' advice. <i>Control group:</i> Usual care.	Intervention group reported significant reductions in alcohol use, fewer days of hospitalization and fewer emergency department visits compared to the control group.
Lock et al. (2006)	UK	A cluster RCT to test the effectiveness and cost-effectiveness of screening and brief alcohol intervention for patients in primary health care.	Alcohol	Practice nurses working in primary health care.	<i>Screening:</i> AUDIT <i>Outcome measures:</i> AUDIT; self-reported alcohol use; Health-related Quality of Life (SF-12); health service use costs.	<i>Intervention group:</i> Five to ten-minute brief intervention using a protocol. <i>Control group:</i> Standard advice.	ANOVA revealed no statistically significant differences between intervention and control patients at follow-up. Most of the patients in both groups reduced alcohol use between baseline and follow-up but no significant effects were found. Economic analysis suggested that the brief intervention led to no statistically significant changes in subsequent health service resource use relative to standard treatment.

Table 3: Brief interventions in emergency departments

Authors, date	Country	Method and aim	Substance	Sample or setting	Outcome measures	Intervention/s and/or nurse's role in the study	Findings
Brooker et al. (1999) Peters et al. (1998)	UK	RCT of brief interventions in an emergency department.	Alcohol	Emergency Department (ED) attendees and nurses working in ED	N/A	The triage nurses received training in the use of CAGE to screen patients.	The study was abandoned because of lack of uptake. The nurses screened only 20% of ED attendees; 88% of patients refused the intervention. Interviews with the nurses indicated that they viewed screening as an activity that delayed patients' treatment. About half felt it was inappropriate for them to ask patients about alcohol use in the ED. It also emerged that the nurses had felt pressurized to become involved in the study.
Daeppen et al. (2007)	Switzerland	RCT of brief interventions in an emergency department.	Alcohol	ED attendees who had sustained an injury	AUDIT and measures of alcohol use	<i>Intervention group:</i> Received a 10-minute to 15-minute brief intervention after screening and assessment. The role of the nurse was to facilitate communication between the researchers and the ED staff, rather than being directly involved in screening or interventions. <i>Control group 1:</i> Were only screened. <i>Control group 2:</i> Received screening and assessment.	At one-year follow-up, patients in all groups had reduced alcohol use to a similar extent. The authors suggested that the busy emergency department environment might have constrained the extent to which the patients and interventionist could develop an empathic relationship, thus limiting the potential effect of the intervention.
Dent et al. (2008)	Australia	RCT to evaluate the impact of two brief intervention approaches.	Alcohol	ED attendees who had sustained an injury	Paddington Alcohol Test screening tool. Outcome measures: Alcohol use and number of alcohol-related ED attendances.	<i>Intervention group 1:</i> Received a brief intervention on the same day by an emergency nurse or doctor. <i>Intervention group 2:</i> An appointment for motivational interviewing by an off-site alcohol counsellor within one week. <i>Control group:</i> Received standard care.	At the three-month follow-up, the patients in all groups reported having reduced their daily alcohol use significantly.

Table 3: Brief interventions in emergency departments (continued)

Authors, date	Country	Method and aim	Substance	Sample or setting	Outcome measures	Intervention/s and/or nurse's role in the study	Findings
Cummings et al. (2006)	Canada	Study to test the feasibility of screening and initiating an intervention during waiting times at an ED.	Alcohol and other substances (and other health issues)	ED attendees	Computerized self-screening of over 300 questions that included CAGE.	Intervention delivered by a nurse.	1 011 / 2 366 (43%) patients screened reported substance use. Only 14 (2%) were contactable at follow-up. Seven had made progress in addressing problems.

Table 4: Brief interventions in hospital wards and outpatient clinics

Authors, date	Country	Method and aim	Substance	Sample or setting	Outcome measures	Intervention/s and/or nurse's role in the study	Findings
Watson (1999b)	UK	A cluster RCT of the effectiveness of three brief interventions.	Alcohol	Hospital inpatients on medical, surgical and orthopaedic wards.	Alcohol use measures: Score on Alcohol Problems Questionnaire, GGT, AST, MCV.	<i>Control group:</i> Usual care. <i>Intervention group 1:</i> A stand-alone brief counselling session. <i>Intervention group 2:</i> A brief intervention supplemented by a pamphlet on alcohol. <i>Intervention group 3:</i> The pamphlet alone.	At one-year follow-up, statistically highly significant reductions were found in all outcomes except MCV for all groups. Group 1 showed the greatest reductions for these outcomes but no one group reported reductions which were significantly greater than any of the others.
McManus et al. (2003)	UK	Pre-test post-test design to compare the effectiveness of a brief intervention by a nurse counsellor in two sessions.	Alcohol	Hospital inpatients on general medical wards.	Measures of alcohol use.	One-hour counselling by a nurse based on readiness to change plus the provision of written materials on sensible drinking and reducing alcohol use. No control group.	The brief intervention led to a reduction in alcohol use at six-month follow-up. A second counselling session after discharge showed no advantage over the intervention delivered in the ward.
Holloway et al. (2007)	UK	Cluster RCT to compare the effectiveness of two brief interventions.	Alcohol	Hospital inpatients in medical, surgical, dermatology & otolaryngology wards.	AUDIT, retrospective seven-day drinking diary, DRSEQ.	<i>Control group:</i> Usual care. <i>Intervention group 1:</i> A 20-minute self-efficacy enhancing brief intervention. <i>Intervention group 2:</i> A self-help booklet.	A significant reduction in alcohol use for the self-efficacy enhancement and booklet groups compared to the control group. Mean self-efficacy scores rose in self-efficacy group. No evidence that self-efficacy enhancement was better than the booklet.
Smith et al. (2003)	UK	RCT to test the effectiveness of a brief intervention.	Alcohol	Hospital outpatient clinic. Young males with alcohol-related facial injuries.	AUDIT, Alcohol Problems Questionnaire, measures of alcohol use.	<i>Control group:</i> Usual care. <i>Intervention group:</i> Treatment as usual plus a one-session brief intervention. Before the study the nurses received training in motivational interviewing and had top-up training monthly throughout the study.	Significant reductions in level and patterns of alcohol use and alcohol-related problems, and improved interpersonal relationships following brief intervention by a nurse.

Table 4: Brief interventions in hospital wards and outpatient clinics (continued)

Authors, date	Country	Method and aim	Substance	Sample or setting	Outcome measures	Intervention/s and/or nurse's role in the study	Findings
Goodall et al. (2008)	UK	RCT to assess the impact of two brief interventions.	Alcohol	Attendees at three oral and maxillofacial surgery outpatient clinics.	AUDIT and measures of alcohol use.	<i>Control group:</i> Standard alcohol information leaflet. <i>Intervention group:</i> Single-session brief motivational intervention administered by a nurse. The nurses were trained in counselling and brief interventions.	The patients in the intervention group reported significantly greater reductions in the frequency of alcohol use variables.

Table 5: Brief interventions in obstetric/maternity care

Authors, date	Country	Method and aim	Substance	Sample or setting	Outcome measures	Intervention/s and/or midwife's/nurse's role	Findings
Manwell et al. (2000)	USA	Subanalysis of the two-year follow-up of an RCT of screening and brief intervention.	Alcohol	Pregnant women and women of childbearing age in primary health care.	Measures of alcohol use, health care utilization and health status.	Two 15-minute scripted sessions delivered one month apart by physicians with tasks for patients to complete at home. The nurses' involvement was confined to two five-minute follow-up telephone calls to reinforce the physicians' advice.	A significant reduction in alcohol use was found at the two-year follow-up. Women in the experimental group who became pregnant during the study had the largest decreases. No significant differences were found in health care use or health status between groups.
Chang et al. (2005)	USA	RCT to test the effectiveness of a brief intervention when a partner is included.	Alcohol	Pregnant women and their partners.	<i>Screening:</i> T-ACE. <i>Outcome measures:</i> <i>Women:</i> Measures of alcohol use, Alcohol Abstinence Self-Efficacy score. <i>Partners:</i> Collateral report on the subjects' alcohol use, Health and Habits Survey.	<i>Control group:</i> Usual care. <i>Intervention group:</i> A 25-minute brief intervention by either a nurse or a doctor.	Alcohol use declined in both groups. The brief intervention was significantly more effective in women whose alcohol use was greater at baseline. The effect of partner involvement in the intervention was greater when the partner was also involved in drinking.
Doggett et al. (2005)	N/A	Systematic review of evidence from home visits to pregnant women with a history of substance use.	Alcohol and/or other substances	Postnatal women.	N/A		Insufficient evidence due to the low number of studies and weaknesses in these studies to recommend routine use of home visits to improve drug use outcomes.

Table 6: Brief interventions in miscellaneous settings

Authors, date	Country	Method and aim	Substance	Sample or setting	Outcome measures, including screening tool	Intervention/s and/or nurse's role	Findings
Werch et al. (2003)	USA	RCT of a health promotion programme.	Alcohol	6 th grade high school students	Screening: 77-item Youth Alcohol and Drug Survey and a "dipstick" saliva test.	<p><i>Control group:</i> Received a pamphlet on young people and alcohol.</p> <p><i>Intervention group:</i> 1) Consultation with a nurse on how to avoid alcohol use. 2) Series of postcards mailed to the parents with information on what to say to children about avoiding alcohol. 3) Follow-up consultation from the nurse when they were in 7th grade. 4) Six months later they were given four activities to enhance parent-child communication, prevention skills and knowledge.</p>	Significantly fewer students in the intervention group reported drinking heavily during the past 30 days, or had consumed alcohol over any period of time, compared to the control students ($p < 0.05$).
Pirskanen et al. (2007)	Finland	Qualitative methods used to evaluate a nurse-led early intervention programme for substance users in a school.	Alcohol and other substances	Junior and senior high schools	Adolescents' Substance Use Measurement (ADSUME), which is a validated questionnaire adapted from the AUDIT.	Described as containing "elements of brief intervention".	Alcohol was the main substance of use; 3% had used cannabis. The nurses found the ADSUME useful in helping to raise drug use issues. The open-door policy, confidentiality and reaching a consensus with pupils about levels of concern were important. Difficulties included delivering an intervention with pupils who believed that consuming large quantities of alcohol was not problematic.

Table 6: Brief interventions in miscellaneous settings (continued)

Authors, date	Country	Method and aim	Substance	Sample or setting	Outcome measures, including screening tool	Intervention/s and/or nurse's/midwife's role	Findings
Lane et al. (2008)	Australia	RCT of screening and brief intervention and a study of its acceptability.	Alcohol	A sexual health clinic	Hand-held computerized AUDIT.	Two nurses delivered the five-minute to ten-minute intervention.	At three-month follow-up, a significantly greater proportion of intervention group participants had reduced alcohol use ($p < 0.001$) and showed greater reductions in AUDIT scores than the control group. This did not reach the 5% level of statistical significance. The screening and intervention process was acceptable to 74% of patients and 71% of the staff.
Baker et al. (1994)	Australia	RCT to evaluate a BI for HIV prevention among users of psychoactive substances using an RCT design.	Psycho-active substances	Out of treatment substance users who were homeless. Study conducted in a homeless shelter and a community pharmacy.	<i>Screening tools:</i> Personal Risk Questionnaire, a questionnaire designed to assess motivation to change risk behaviour; Drug Use Scale; HIV Risk-taking Scale; collateral reports.	<i>Intervention group:</i> 30-minute assessment and 30-minute manual-based brief intervention by a nurse or psychologist. <i>Control group:</i> 30-minute assessment.	The sample as a whole reduced injecting risk-taking behaviour between baseline and both follow-up points, but no significant differences were found between the groups at three- or six-month follow-up. There were no significant reductions in sexual risk-taking behaviour in either group.
Watson et al. (2009)	UK	RCT, economic evaluation and feasibility study of brief interventions by an occupational health nurse.	Alcohol	Employees of a local authority council.	Screening tool: AUDIT. Outcome measures: AUDIT, alcohol use measures.	<i>Control group:</i> Usual care. <i>Intervention group:</i> 25-minute brief intervention and written information. Brief interventions delivered by an occupational health nurse.	1 514 were invited to be screened; 627 (41.4%) agreed; 26% screened positive and the 55 who consented to the trial were randomized to control or intervention group. The employees in the intervention group reported greater reductions than those in the control group for alcohol use. At six-month follow-up, the intervention group reported fewer days use of health services. The process was acceptable to the employees.

Table 7: Nurses' and midwives' reported practice of screening and/or brief interventions

Authors, date	Country	Method and aim	Substance	Sample or setting	Nurse's/midwife's role	Findings
Deehan et al. (1998)	UK	Postal survey to assess practice.	Alcohol	Practice nurses working in primary health care.	Practice of screening and brief interventions investigated.	Most nurses reported seeing hazardous or harmful drinkers as patients. The main method used by practice nurses to detect hazardous and harmful drinking was the assessment interview and screening questionnaire (32.5%). The main intervention was the provision of advice and information (81.4%) and health education literature (52.1%).
Owens et al. (2000)	UK	Postal survey to determine nurses' practice of screening.	Alcohol	Practice nurses working in primary health care.	Practice of screening and brief interventions investigated.	93% of the nurses reported taking an alcohol history, and 96% said that they routinely gave advice on sensible drinking. However, only 34% and 60% gave advice to men and women respectively that was in keeping with the sensible limits specified by the Department of Health at the time of the study.
Neushotz and Fitzpatrick (2008)	USA	Qualitative study and documentary survey to identify factors that affect rates of screening and brief intervention.	Alcohol and other substances	Sample comprised six physicians, social workers and nurses in primary health care.	Practice of screening and interventions investigated.	The physicians and social workers routinely screened, whereas the nurses reported a 25% compliance rate. Few details on how the data were analysed and the issue of recall bias limited the credibility and transferability of the findings.
Anderson et al. (2001)	UK	Postal survey to assess prevalence of alcohol-related attendances in EDs.	Alcohol	ED doctors and nurses.	Policy and practice of screening and interventions investigated.	About 2/5 of the respondents stated their departments did not routinely screen for alcohol-related problems. 42% asked patients about alcohol if they suspected dependence. Intervention was normally referral to the patient's GP.
Lappalainen-Lehto et al. (2005)	Finland	Correlation study to compare patients' self-reports about substance use with doctors' and nurses' predictions.	Alcohol and other substances	Surgical patients, surgeons and nurses in an urban hospital.	Assessed nurses' detection rates of substance users independently of patients' responses to self-completed AUDIT and substance-related questions.	Of the 47 patients with +ve AUDIT scores, 23% were detected by the doctors and nurses. There was no significant difference between the surgeons' and nurses' detection rates.

Table 7: Nurses' and midwives' reported practice of screening and/or brief interventions (continued)

Authors, date	Country	Method and aim	Substance	Sample or setting	Nurse's/midwife's role	Findings
Kerker et al. (2004)	USA	Cross-sectional study of personal influences on decisions to screen pregnant and postpartum women for substance use.	Alcohol and other substances	Obstetric/maternity care.	Five of the 40 professionals were nurse-midwives.	Single women; black women; women with placental abruption, preterm labour, poor prenatal care, high social/mental health risk, history of drug or tobacco use were more likely to be screened. Staff who scored medium or high on the Professionalism Scale were more likely to screen. Conclusion: A universal screening policy is needed.
Herzig et al. (2006)	USA	Qualitative focus group study to explore how health professionals identify and provide counselling interventions for psychoactive substance use with pregnant women.	The paper focused on domestic violence, with substance use being secondary.	Participants were obstetricians/ gynaecologists, nurses and certified nurse-midwives.	Providing obstetric/maternity care.	Participants regarded it important to screen for substance use but did so informally; no particular tools mentioned; interventions that were described used many elements of brief motivational interventions but the latter term was not used.
Chang et al. (2008)	USA	Qualitative study of communication about substance use with pregnant women during the first antenatal consultation.	Alcohol and other substances	Pregnant women attending an obstetric clinic and 29 health professionals, who included five midwives.	Screening and intervention practice explored.	27/51 women used substances, most being tobacco smokers. 11 reported using illicit drugs. Tobacco use was routinely assessed and cessation encouraged, but users of alcohol or other substances were more likely to be referred to a genetic counsellor.
Davis & Carr (2008)	Canada	Survey of the practices of physicians and nurses in assessment of alcohol use in pregnant women.	Alcohol	Obstetric/maternity care.	Screening practice explored.	95% of the nurses always/sometimes asked pregnant women about alcohol use; 61% rarely or never used a screening tool. The CAGE was the tool of choice for most of the nurses who used a tool.

Table 7: Nurses' and midwives' reported practice of screening and/or brief interventions (continued)

Authors, date	Country	Method and aim	Substance	Sample or setting	Nurse's/midwife's role	Findings
Ozer et al. (2004)	USA	Survey of paediatric health professionals' self-efficacy in screening adolescents, and reports of their actual screening.	Alcohol use and other health behaviours	Paediatricians and paediatric nurses.	Self-efficacy for screening explored.	The nurses and paediatricians self-rated moderately high self-efficacy for screening for alcohol use. A weak +ve association was found between self-efficacy to deliver interventions for alcohol use with the adolescents' reports of screening ($r=0.23$; $p=0.06$). This was weaker than associations with interventions for tobacco use or other health behaviours.
Griffiths et al. (2007)	Australia	Survey of nurses and medical records audit to identify screening practices.	Alcohol and other substances	Medical and surgical ward nurses in an urban hospital.	Screening practice explored.	<i>Audit:</i> Screening for use of alcohol or other substances was documented in patients' records for 22/79 patients. Detailed information on volume and duration was recorded in nine. <i>Survey:</i> Nurses' knowledge about "safe drinking" levels was low; knowledge about assessment and management of substance use was reasonable; most knew little about the signs and symptoms of dependence on substances other than alcohol.

Table 8: Facilitators and barriers in primary health care

Authors, date	Country	Method and aim	Substance	Participants/setting	Findings
Aalto et al. (2001)	Finland	Postal survey of nurses' and GPs' knowledge, practice and attitudes.	Alcohol	GPs and nurses in primary health care.	2/3 of the nurses considered it worthwhile to ask patients about alcohol use and regarded screening and brief interventions as a legitimate part of their role. Only 11% of the nurses felt they had knowledge of the content of a brief intervention.
Deehan et al. (2002)	UK	Telephone survey.	Alcohol	Nurses in primary health care.	95% said alcohol screening should be part of their role; 42% screened patients opportunistically if alcohol was a risk factor; 13% screened all patients routinely; 95% screened new patients routinely. Few had undertaken alcohol training and most lacked confidence in working with drinkers; 43% lacked knowledge.
Johansson et al. (2002)	Sweden	Postal survey of nurses' and GPs' knowledge, practice and attitudes.	Alcohol	GPs and nurses in primary health care.	Nurses were more likely to ask about alcohol use if they thought the patient's health was being affected; had fairly positive attitudes to incorporating screening and brief interventions with their practice; were more knowledgeable about alcohol-related problems than interventions and lacked confidence about their knowledge and skills. 53% felt that hazardous and harmful drinkers did not want help.
Lock et al. (2002)	UK	Qualitative study of nurses' views of facilitators and barriers.	Alcohol	Practice nurses working in primary health care.	The nurses described difficulties in raising the issue of alcohol use. Few had received training for this work. More than half felt that patients were not honest about their alcohol use. There was confusion about standard units of alcohol and sensible drinking limits. Most had had no specific training on alcohol issues.
Johansson et al. (2005)	Sweden	Qualitative study of nurses' and GPs' views of facilitators and barriers.	Alcohol	GPs and nurses working in primary health care.	The nurses acknowledged the importance of addressing alcohol issues but were reluctant to ask about alcohol use unless there were clear reasons; were more willing to engage with harmful drinkers if there was evidence of alcohol-related harm; lacked confidence to intervene; felt it was too time-consuming; were often concerned about potential effects on their relationship with patients.
Giersson et al. (2005)	Sweden	Postal survey of nurses' and GPs' knowledge, practice and attitudes.	Alcohol, smoking, stress, inadequate exercise, obesity	GPs and nurses working in primary health care.	Few of the nurses asked about alcohol use; both GPs and nurses believed intervening to reduce alcohol use was less important than for any of the other lifestyle behaviours; both GPs and nurses felt they were less effective at reducing alcohol use than at improving all of the other behaviours. The more alcohol education nurses had received the more positive were their attitudes and the more likely they were to screen.
Holmqvist et al. (2007)	Sweden	Postal survey of nurses' and GPs' knowledge, practice and attitudes.	Alcohol	GPs and nurses working in primary health care.	80% of the nurses said it was very important to identify and offer advice to hazardous and harmful drinkers; 28% "frequently" discussed alcohol with their patients; 53% "infrequently" addressed alcohol issues even when they believed that a patient had alcohol-related symptoms.
Neushotz & Fitzpatrick (2008)	USA	Qualitative study of nurses', physicians' and social workers' reports of practice and documentary review.	Alcohol and other substances	Sample of six physicians, social workers and nurses in primary health care.	Nurses reported screening 25% of cases.

Table 9: Facilitators and barriers in hospitals

Authors, date	Country	Method and aim	Substance	Participants/setting	Findings
Anderson et al. (2001)	UK	Survey to identify practice.	Alcohol	Nurses and doctors working in hospital emergency departments.	About 2/5 did not screen for alcohol-related problems. 42% asked patients only if they suspected dependence. Intervention was limited to referral to the patient's GP. Nursing staff lacked confidence and expressed a need for training and support.
Sinclair et al. (2003)	UK	Qualitative study to identify prevalence of substance-using patients in hospital.	Ward managers in an inner-city hospital	Qualitative study.	At least one patient who used drugs was admitted each week to 55.5% of the hospital's wards. Heroin, benzodiazepines, cocaine, dihydrocodeine and methadone were substances used. Difficulties in managing substance-using patients included aggression and disruptive behaviours, non-compliance with treatment and continuing use while in hospital. Screening of all patients for substance use was recommended.
Karlsson et al. (2005)	Sweden	Mixed method feasibility study of computerized screening in EDs.	Alcohol	Nursing staff in an ED.	81.5% of nurses thought alcohol prevention was part of their role but there was variation in nurses' screening rates. Time was a barrier in emergency departments. It was suggested that written protocols for brief interventions would be useful.
Nordqvist et al. (2006)	Sweden	Mixed method study of the feasibility of a computerized BI in an ED.	Alcohol	Nursing staff in an ED.	Nurses reported that patients reacted well to being screened and there were statistically significant improvements by the end of the study in nurses' attitudes to screening and their belief that it is possible to influence patients' drinking. Perceived confidence improved, but many were uncertain of the suitability of the ED for alcohol screening. Lack of time, stress and lack of knowledge were barriers.
Griffiths et al. (2007)	Australia	Survey of screening practice.	Alcohol and other substances	Nurses from medical and surgical hospital wards.	The nurses' knowledge about "safe drinking" levels was low; they had reasonable knowledge about assessment and management of substance use; most of them knew little about the signs and symptoms of dependence on substances other than alcohol.
Lappalainen-Lehto et al. (2005)	Finland	Comparison of patients', nurses' and doctors' detection rates.	Alcohol and other substances	Surgical hospital patients and nurses.	The nurses cited lack of knowledge as a major issue, with only 18% having sufficient knowledge to conduct a brief intervention. Lack of time was also an obstacle.
Willaing & Ladelund (2005)	Denmark	Comparison of medical, surgical and mental health nurses' practice of screening and brief interventions.	Alcohol	Nurses from medical, surgical or psychiatric wards of a university hospital.	Attitudes were significantly related to confidence. Mental health nurses were most knowledgeable and active in counselling for alcohol use; medical nurses and surgical nurses were less active. Mental health nurses felt more qualified to provide interventions and viewed this as part of their role. Many surgical nurses did not consider it part of their role and did not systematically include appropriate interventions.

Table 10: Summary of perceived barriers and facilitators

Author, date	Health care setting	Role acknowledged	Confidence	Perceived barriers	Perceived facilitators
Anderson et al. (2001)	Emergency department	Acknowledged by some.	Low	Lack of privacy. Low confidence. Lack of knowledge.	Education and skills training.
Aalto et al. (2001)	Primary health care	Yes	Low	Low confidence. Lack of knowledge.	Screening incorporated with routine. Education and skills training. Role support.
Deehan et al. (2002)	Primary health care	Yes	Low	Lack of knowledge.	Education and skills training. Role support.
Lock et al. (2002)	Primary health care	Yes	Low	Low confidence. Lack of knowledge. Concerned about patients' reactions	Dissemination of evidence on effectiveness of screening and brief interventions. Education and skills training. Clarification of low-risk drinking limits.
Johansson et al. (2002)	Primary health care	Yes	Low	Low confidence. Concerned about patients' reactions and impact on relationship.	Education and skills training.
Sinclair et al. (2003)	Hospital	Not addressed, but inferred.	Not addressed, but inferred.	Lack of knowledge. Negative attitudes. Lack of support.	Time. Clinical guidelines; a specialist drug misuse worker should provide support and advice.
Karlsson et al. (2005)	Emergency department	Acknowledged by some.	Not addressed.	Lack of time, stress and lack of knowledge	
Nordqvist et al. (2006)	Emergency department	Acknowledged by some.	Low	Lack of time, stress, and lack of confidence and knowledge	Time. Written protocols.
Desy & Perhats (2008)	Emergency department	Low	Low	Competing clinical priorities. Brevity of the encounter in ED. Lack of privacy. Low confidence.	Education.
Geirsson et al. (2005)	Primary health care	Yes, but less than for tobacco use or obesity.	Low	Lack of interest. Lack of knowledge.	Education and skills training.

Table 10: Summary of perceived barriers and facilitators (continued)

Author, date	Health care setting	Role acknowledged	Confidence	Perceived barriers	Perceived facilitators
Johansson et al. (2005)	Primary health care	Yes	Low	Lack of knowledge. Lack of time. Concern about impact on relationship with the patient.	More likely to screen or intervene if nurses suspect the patient to be a harmful drinker. Education and skills training.
Lappalainen-Lehto et al. (2005)	Hospital			Lack of knowledge. Lack of time. Lack of privacy.	Education.
Willaing & Ladelund (2005)	Hospital	Variable	Variable	Low confidence. Lack of interest. Lack of knowledge.	Education.
Holmqvist et al. (2007)	Primary health care	Yes	Fair	Concerned about patients' reactions. Low confidence. Lack of time. Lack of knowledge.	More likely to screen or intervene if nurses suspect the patient to be a harmful drinker. Education.
Griffiths et al. (2007)	Hospital		Low	Lack of knowledge.	Education. Policies and protocols for screening and managing alcohol and substance users.
Neushotz & Fitzpatrick (2008)	Primary health care	Not addressed	Not addressed	Lack of knowledge. Lack of time. Lack of support.	Education. Support regarding referral to specialist agencies.

Table 11: Impact of education

Authors, date	Country	Method and aim	Substance	Participants/ setting	Intervention	Findings
Ockene et al. (1997)	USA	RCT to assess the impact of training on the skills, attitudes and knowledge of doctors and nurses.	Alcohol	Primary health care.	An education programme on the use of an algorithm to guide practice, and a lecture with role play on screening and brief interventions, using a motivational approach to negotiate goals and develop strategies for change. Written materials were provided.	After training, statistically significant improvements were reported in attitudes, knowledge and skills. Nurses assigned more importance to interventions, and competence to intervene increased.
Andreasson et al. (2000)	Sweden	Descriptive study.	Alcohol	GPs and nurses working in primary health care.	During a 45-minute visit, a project nurse explained how to raise the subject of alcohol use, use the AUDIT and facilitate behaviour change. The participants were given a guideline on screening and brief interventions, copies of the AUDIT for use, and booklets on drinking for patients.	Very few of the nurses had used the materials left by the project nurse. A preventative approach to alcohol problems was a low priority. The nurses were more likely to discuss general lifestyle issues than raise the issue of alcohol, and they rarely made notes about alcohol consumption in patients' notes.
Kaner et al. (2003)	UK	Cluster RCT and economic evaluation.	Alcohol	Practice nurses working in primary health care.	<i>Group 1:</i> Received written guidelines (control group). <i>Group 2:</i> Received about 35 minutes of training in screening and brief interventions. <i>Group 3:</i> Received about 35 minutes of training in screening and brief interventions, and telephone support.	<i>Group 1:</i> 39% implemented screening and brief interventions. <i>Group 2:</i> 74% implemented screening and brief interventions. <i>Group 3:</i> 71% implemented screening and brief interventions. Cost per patient appropriately treated was similar for the three groups. Nurses who received training were more likely to engage in these activities when they received telephone support to augment their training, but the cost outweighed the benefits.

Table 11: Impact of education (continued)

Authors, date	Country	Method and aim	Substance	Participants/ setting	Intervention	Findings
Lock & Kaner (2004)	UK	Correlation study to compare the effect of training on nurses' screening and brief interventions with a no-treatment control group.	Alcohol	Practice nurses working in primary health care.	There was no intervention. Nurses were asked to screen patients during routine practice and follow a structured protocol during a brief intervention.	Nurses screened 5 541 patients during three months after training. 1 500 were identified as "risk" drinkers, of whom 62% received a brief intervention and 38% did not. The nurses screened fewer patients than GPs in a previous study but did brief interventions more consistently. The AUDIT score was the most influential predictor for a brief intervention by practice nurses. Drinkers most likely to receive a brief intervention were male.
McManus et al. (2003)	UK	Trial to assess the effectiveness of a brief intervention. Nurse training formed part of the study.	Alcohol	Hospital inpatients at general medical wards.	Training in screening and ongoing support.	The focus of the study was the brief intervention, but training and support were reported to improve screening practice.
Grupp (2004)	USA	Controlled trial.	Alcohol and other substances	Nurses of an inpatient nursing unit.	A one-day training session on: myths about addicted people, disease versus harm reduction theory, resources for treatment, pain management for addicted patients, physiological withdrawal, and brief intervention.	Most of the nurses found the training useful. Patients in both the treatment ward and control ward were interviewed three months after the training. No differences were found between the experimental and control areas.
Desy & Perhats (2008)	USA	Prospective pilot study.	Alcohol	Nurses working in emergency departments.	Senior nurse coordinators of five EDs attended a one-day education session on screening and brief intervention (n=10). They cascaded the training to the staff nurses in the EDs.	2/5 sites implemented the SBIRT process three months later. Delays in receiving IRB approval was the main reason for lack of uptake in the other three sites. Of the 3265 patients screened, 678 (21%) were hazardous drinkers. 56% of the +ve-screened patients received a three-minute to five-minute intervention.

Table 11: Impact of education (continued)

Authors, date	Country	Method and aim	Substance	Participants/ setting	Intervention	Findings
Peltzer et al. (2008)	South Africa	A cross-sectional study to assess the success of implementation of screening and brief intervention.	Alcohol	Nurses at 18 primary health care clinics who had received two days of training in screening and brief intervention.	<i>Control group:</i> An assistant nurse asked patients about alcohol use and referred them for SBI if they felt it necessary. <i>Intervention group:</i> An assistant nurse administered the AUDIT and did brief intervention according to the AUDIT score.	At the six-month follow-up, 2 670 patients had been screened and 648 (23.4%) were hazardous or harmful drinkers. 83.4% of the interventions had been delivered by the nurses trained in screening and brief intervention.
Vadlamundi et al. (2008)	USA	Pre-test post-test evaluation of the effect of an educational intervention on attitudes, beliefs and confidence.	Alcohol	Nursing students.	Lecture, role play and discussion on how to assess risks associated with hazardous and harmful drinking and how to reduce harm related to alcohol use.	Significant positive changes were found in attitudes, beliefs and confidence levels. The nurses with moderate, little or no past experience with patients who were hazardous and harmful drinkers showed greater confidence after the intervention.